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PSYCHOMETRIC PROPERTIES OF THE MAP OF CHARACTERS: INSTRUMENT FOR THE IDENTIFICATION OF BEHAVIORAL AND EMOTIONAL PATTERNS BASED ON BODY STRUCTURE ANALYSIS

Public Health

Fernanda Alves PhD in Health Sciences, Department of Development Research, O Corpo Explica (OCE).

Elton Euler da Silva Reis Creator, Founder and Technical Director, Department of Development Research, O Corpo Explica (OCE).

ABSTRACT

Theories about the interference of the mind-body relationship in the development of diseases have been built over the decades, among them, the one suggested by Wilhelm Reich and Alexander Lowen stands out, which described how identical body structures have similar behavioral and sentimental tendencies, since character analysis is based on five traces (schizoid, psychopathic, oral, masochist, and rigid) that are related to specific body formations. Therefore, Brazilian researchers pursued this concept by developing a new approach, through an instrument known as "Map of Characters", which allows the identification of individual behavior patterns from the shape of their body, based on the intensity of each character trace in six specific parts of the body and the definition of the final percentage of each of the traces. This study targeted to verify the psychometric properties (validity and reliability) of the Map of Characters, instrument created to measure the percentage of an individual's character traces. This is a methodological study to verify the validity and reliability of this tool, using records from a body analysis training school. Participants over the age of 18, who have undergone body analysis with a certified analyst were included. The Map of Characters was used to identify the body profile. The data was retrospectively collected by searching the school's partner database. The psychometric properties of the Map of Characters were evaluated by construct validity, using the Mann-Whitney and Kruskal-Wallis tests (significance level = 0.05), and reliability, by ways of the internal consistency and reproducibility analysis. The internal consistency was assessed by Cronbach's Alpha coefficient of the five character traces and, in the reproducibility analysis, intra- and inter-rater agreement were evaluated. The construct validity was confirmed by the hypothesis testing and the reliability by analyzing internal consistency and reproducibility, showing a tool that can measure the percentage of a person's character traces.

KEYWORDS

character traces, body analysis, psychometric properties, instrument validation, character analysis, Map of Characters;

INTRODUCTION

The applicability and clinical utility of identifying the way an individual thinks, feels, and behaves in the context of treatment, in many aspects of daily life that significantly impact well-being and physical and mental health, have been demonstrated in some studies [1,2].

This perspective has been pointed out since the 30th decade, when Reich, Freud's physician collaborator, noted that the difficulties in achieving success in the classical approach to psychoanalysis took place from resistances coming from the patient's character, in other words, the behavioral and emotional patterns that remained constant in each individual [3]. In this author's view, it was important to identify the patient's character in order to understand the individual´s behavioral and emotional pattern and therefore, conduct the treatment using this new type of analysis to increase the efficiency of the process [3,4,5].

The conceptions proposed by Reich were the basis of the bioenergetic analysis created by Lowen, who did an intensive study on character types, expanding into descriptions about the relation of body shape to the psychological dynamics of behavioral patterns [6]. For this theorist, an individual's muscle tension patterns reflect traumas experienced during growth, which would be perceived in different intensities and originate physically and psychologically structured behavior patterns in his daily life [6]. This way, it would be possible to identify the character from the shape of the body and explain a person's way of acting [7]. According to these authors the character traces were classified into five basic types: schizoid, oral, psychopathic, masochist and rigid [5,6].

Thus, the five character traces are associated with a specific body biotype [6,8]. The body shape of the schizoid trace is defined by a disharmony, stiffened, narrow and contracted, with a face similar to a mask, empty gaze, arms hanging down, feet contracted and turned inward. There is a discrepancy between the two halves of the organism, as if they were not part of the same person. On the other hand, the oral character trace presents as body characteristics a more rounded body, underdeveloped musculature, small feet, droopy shoulders, and a needy gaze [6,8].

The body structure of the psychopathic character trace is defined by a larger upper body, with a piercing, imposing gaze. Meanwhile, the masochist character presents the short, thick, muscular physical type, with flattened buttocks and a suffering stare. Lastly, the body biotype of the rigid character trace features an upright head, erect spine, and stiff musculature. In addition, the body tends toward proportionality, with bright eyes, lighter gestures, and body agility [6,8].

In this manner, Reich and Lowen demonstrated that through the analysis of the body structure it is possible to observe patterns that present similar emotional and behavioral predispositions, since certain body structures are associated with specific character traces [3,6,7], which can help in the diagnosis and treatment of emotional, mental, and somatic conditions [7].

The presence of more than one element in a character structure presents a great challenge in determining the dominant feature of that person [9]. Moreover, the methods of character analysis described by Reich and Lowen, as well as modern bioenergetic and body psychotherapy analyses have not attempted to measure the percentage (presence and intensity) of each character trace in an individual [9,10,11].

However, to understand the mind and identify the pattern of functioning (the way people think, feel and act), analyzing the body shape, it is crucial to know the exact percentage of each character trace that a person possesses. In a literature review performed in 2022, it was confirmed that neither Reich, nor Lowen, or any other scholar had come up with a way to measure the percentage of character traces [7].

As Lowen himself pointed out, to diagnose the character type is not always easy [6]. Given the difficulty in measuring the percentage of character traces that people have, as well as the inexistence of an instrument that would be suitable for it and was able to measure the presence and intensity of the character traces in an individual's body and mind (pattern of functioning), Brazilian researchers explored and expanded the concepts proposed by Reich and Lowen and developed an instrument called "Map of Characters", that allows the analyst to evaluate the presence and intensity of each character trace in six specific parts of the analyzed person's body and quantify the final percentage of each of the traces that this person has [7,12]. In this context, this study was conducted to verify the psychometric properties (validity and reliability) of the Map of Characters, an instrument developed to identify and measure the percentage of an individual's character traces.

METHODOLOGY

This is a methodological study to verify the validity and the reliability

of the Map of Characters that utilized data gathered from the records of a body analysis training school.

The mentioned school electronically records the results of the Body Analysis and the completed forms, and the information collected was transcribed into an Excel spreadsheet for evaluation. This study was approved by the Research Ethics Committee of the Institute of Science and Technology of the Universidade Estadual Paulista (Unesp), by no. 5.411.261/2022.

A large number of people participated in this study in order to make it possible to investigate different contexts of the Brazilian population. As inclusion criteria, it was considered being over 18 years of age, to have gone through the body analysis, by a body analyst trained and certified by the referred school. It was also included professionals who were certified in body analysis and had gone through a selection process for teachers at this school. As exclusion criteria, we used not having the Map of Characters and not having answered the self-administered questionnaires.

To identify the body profile, The Map of Characters was applied, a tool created by O Corpo Explica®, to define the percentages of each character trace according to the person's body structure. The Map of Characters is a graphical tool, consisting of six lines corresponding to the parts of the body analyzed (head, eyes, mouth, upper body, hips, and legs) and by five columns corresponding to the character traces (schizoid, oral, psychopathic, masochist, and rigid). To fill in the Map of Characters, 60 points are given out. Each line (body part) is distributed from zero to 10 according to the shape, sensation and expression of the body part being evaluated. The sum of the line must total 10 points. According to the distribution given in each line, at the end of completing the Map of Characters, the result will be the percentage for each character trace, reaching a total of 100%. The body analysis is done through images, that can be the result of in person observation, by video (recording or video call) or by photographic images.

To identify the presence and intensity of character traces, in the shape of the body structure of the six parts evaluated, it was based on the physical characteristics described by Reich and Lowen [3,6]. It is worth mentioning that it was suggested, an amplification of these physical characteristics based on the perceptions of patterns observed by the creators of the method and confirmed by the analysts in the hundreds of services accomplished, as presented in figure 1.

The data collection was done retrospectively by searching the database of the partner school. By entering the body analysis training, the person receives as a bonus a body analysis, which consists of filling out the Map of Characters and feedback about the thought and behavior patterns. During the process of training, the person is asked to fill out some self-administered survey questionnaires with closed questions about sociodemographic details and lifestyle habits.

Data Analysis

The psychometric properties of the Map of Characters were rated using construct validity and reliability.

Construct validity was tested by hypothesis testing in which the percentages of the five character traces were compared between subgroups that hypothetically should have different percentages applying the Mann-Whitney and Kruskal-Wallis tests (significance level = 0.05). A total of 860 male and female individuals, aged between 19 and 72, participated in this stage, who had their body profile evaluated through Body Analysis by the group of certified analysts, the participants were selected and trained by the referred school and filled out the height and weight fields [11].

Three subgroups of individuals (Eutrophic, Overweight, and Obese) defined by Body Mass Index (BMI) were considered. BMI was calculated by the grounds between body mass (in kilograms) and the square of the height (in meters) and the individuals separated into three groups: eutrophic (18.5 ≥ BMI < 25); overweight (25 ≥ BMI < 30) and obesity (BMI ≥ 30.0).

In a previous study, it was found that the percentage of the character traces Oral, Masochist and Rigid have a positive relation with overweight and that the Schizoid and Psychopathic traces also showed a relation with being overweight, but negatively [12]. Groups were also defined by sex (male and female) [12].

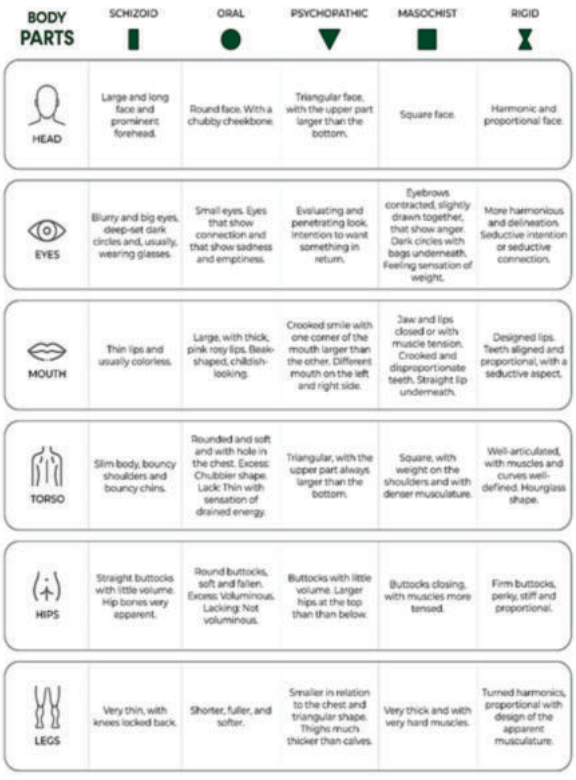

Figure 1: Summary of the characters traces in body analysis.

To verify that the Map of Characters consistently and reproducibly measures character traces, its reliability was tested by performing an internal consistency and reproducibility analysis. Internal consistency was evaluated by Cronbach´s alpha coefficient of the five the Character Traces, in which a minimum value of 0.70 was set for satisfactory internal consistency [13].

In the reproducibility analysis, the intra and inter-rater concordance of the results of the percentages of the five characters traces were evaluated. To evaluate intra-rater concordance, the values of the percentages of the character traces were compared by five analysts at two points in time (1st moment and 2nd moment), with an intermission of 15 days between the two evaluations. In both instances, the evaluations were performed from the video and photo images of the analyzed individuals.

These images were reproduced during the analyses performed online, by a referenced body analyst (gold standard) responsible for the technicalquality of the analyst board at that school. Fifty individuals attended this stage undergoing character trace analysis performed by five certified body analysts and the referenced analyst.

To evaluate inter-rater concordance, the data was collected from a selection process for recruiting teachers from the mentioned school. One of the phases of this process consisted of the body analysis scoring test from completing the Map of Characters. Applicants would have to be certified in body analysis. One of the stages of the test was to score the Map of Characters, using pictures of the analyzed people taken beforehand. Four applicant teachers and six people who underwent a body analysis with a certified professional from the mentioned school attended this phase. The inter-rater concordance was acquired by comparing the results of the analyses performed by the certified analysts with the result of the baseline analyst.

To establish intra-rater and inter-rater correlation, the intraclass correlation coefficient (ICC) was used. For the interpretation of the ICC values, the following criteria were applied: Poor (CCI < 0.20), Fair (0.20 ≤ CCI < 0.40), Good (0.40 ≤ CCI < 0.60), Very Good (0.60 ≤ CCI < 0.80), Excellent (0.80 ≤ CCI ≤ 1.00).

RESULTS

Table 1 and 2 present the results of the Hypothesis Test, in which there

are significant differences in the percentages of the five character traces amongst the subgroups stratified by BMI and gender.

Table 1: Hypothesis Test: comparison of the percentages of the character traces, according to the levels of Body Mass Index (BMI) of the analyzed people.

Variable	BMI			Value-p*
	Eutrophic	Overweight	Obese	
	Average (d.p)	Average (d.p)	Average (d.p)	
% Character traces				
Schizoid	16,6 (6,9)	10,8 (4,5)	8,8 (3,4)	<0,001
Oral	24,4 (5,5)	27,2 (6,1)	30,2 (6,0)	<0,001
Psychopathic	17,2 (4,6)	15,7 (4,7)	13,9 (4,7)	<0,001
Masochist	14,3 (5,5)	20,2 (6,2)	23,5 (5,6)	<0,001
Rigid	27,4 (5,0)	26,1 (5,0)	23,7 (5,4)	<0,001

*Teste Kruskall Wallis; d.p: standard deviation.
BMI: Body Mass Index

Table 2: Hypothesis Test: comparison of the Percentages of the character traces, according to the gender of the analyzed individuals.

Variable	Gender		Value-p*
	Feminine	Masculine	
	Average (d.p)	Average (d.p)	
% Character traces			
Schizoid	12,9 (6,3)	14,3 (7,7)	0,126
Oral	27,9 (5,5)	21,5 (6,0)	<0,001
Psychopathic	15,3 (4,6)	18,5 (4,9)	<0,001
Masochist	17,6 (6,7)	20,2 (7,3)	<0,001
Rigid	26,3 (5,3)	25,5 (5,2)	0,100

Test Mann-whitney; d.p: standard deviation

The results of the internal consistency analysis are presented in Table 3, where it is noticeable that the Cronbach Alpha values were suitable for four of the five Traces, granting homogeneity to the Map of Characters.

Table 3: Internal consistency measures of the five Map of Characters traces.

Factors (Character traces)	Cronbach's Alpha
Schizoid	0,70
Oral	0,70
Psychopathic	0,51
Masochist	0,72
Rigid	0,70

The results of the reproducibility by intra-rater concordance are described in tables 4 and 5 respectively. The ICC predictions suggest excellent concordance both when comparing the results of the body analyses performed by video as well as those performed by photos.

Table 4: Intra-rater reproducibility analysis on the five character traces of the video evaluations (1st moment x 2nd moment), photo evaluations (1st moment x 2nd moment), and Video x Photo (1st moment).

Character traces	Video	Photos	Videos X Photo
	CCI [IC95%]	CCI [IC95%]	CCI [IC95%]
Schizoid	0,98 [0,96-0,98]	0,97 [0,94-0,98]	0,96 [0,91-0,98]
Oral	0,95 [0,92-0,97]	0,91 [0,82-0,96]	0,92 [0,83-0,96]
Psychopath	0,83 [0,71-0,90]	0,80 [0,60-0,91]	0,81 [0,60-0,90]
Masochistic	0,96 [0,93-0,98]	0,89 [0,78-0,95]	0,93 [0,86-0,97]
Rigid	0,96 [0,92-0,97]	0,92 [0,85-0,98]	0,93 [0,84-0,97]

Table 5 shows the results of the inter-rater concordance analysis. The ICC predictions suggest excellent concordance (ICC > 0.80) among the analysts evaluated.

Table 5: Inter-rater concordance - Intra-Class Correlation Coefficient according to Character Traces.

Characteres traces	Intra-Class Correlation Coefficient
Schizoid	0,92
Oral	0,88
Psychopathic	0,89
Masochist	0,87
Rigid	0,95

DISCUSSION

This study originated from the need to make available to the scientific community the first validated instrument that proposes to measure the percentage of character traces, the Map of Characters. The psychometric properties of the Map of Characters were evidenced, configuring this instrument as a valid and reliable tool. Construct validity was confirmed by hypothesis testing and reliability by internal consistency and reproducibility analysis, showing itself to be an instrument capable of measuring the percentage of a person´s character traces.

Validity refers to the fact that an instrument measures exactly what it is supposed to measure, meaning, it is the extent to which a test is truthful, accurate or relevant when measuring a trace it intends to measure [14,15]. To confirm construct validity by hypothesis testing, the known groups technique is used, where different groups are compared [16]. In this study, it was chosen to compare the groups in relation to the body weight and gender, and the construct validity of the Map of Characters was evidenced by its ability to distinguish these groups regarding the character traces. As such, it has been shown that the Map of Characters is capable of measuring what it proposes to measure, that is, the percentage of character traces that a person holds.

The reliability of an instrument is the ability to reproduce a result consistently over time and space, or from different evaluators [17]. It refers to how consistent, stable and equivalent an instrument is [16] The Map of Characters proved to be reliable from the satisfactory internal consistency analysis, demonstrating homogeneity of the items that were evaluated. This result suggests that this instrument is able to consistently measure the percentage of character traces.

The stability refers to the extent to which similar results are obtained at two different points in time, that is to say, it is the estimate of the consistency of the repetitions of the measurements[16]. Excellent agreeability rates were noticed in this study, when compared to either by photos, by videos, or photo and video analysis, in the two distinct moments. The answers given, by the same appraiser, intra-rater accordance, at different times are reliable, which indicates a stable stability of the Map of Characters [18].

These findings point out that the fulfillment of the Map of Characters, through the Body Analysis, can be done either by video conference/face-to- face or by photographs.

The equivalence refers to the level of agreement between two or more evaluators on the scores of an instrument [16]. The most common way of assessing equivalence is through inter-rater reliability, which involves the independent participation of the evaluators [19].The inter-rater reliability depends, mainly, of an adequate training of the evaluators and a standardization of the application of the instrument [20]. The percentages given for the character traces, by the certified analysts were similar, indicating excellent agreement between them. These findings indicate that during Body Analysis schooling, the students were well trained and achieved a considerable level of standardization in filling in the Map of Characters.

It is worth mentioning that to become a certified body analyst the person goes through a training that involves a theorical and a practical role. Within the suggested activities of the practical part, several exercises on scoring the Map of Characters are performed both by video and photos. In addition, live classes and study groups are offered, with the purpose of clearing up doubts and practicing punctuation. To get the certificate, the student goes through an evaluation process, where one of the phases is the scoring of the Map of Characters, and to be approved at this stage the student needs to get at least 95% of the score for each character trace, when compared to the reference percentage.

Besides being reliable, an instrument also needs to show evidence of validity, to establish the level of confidence that can be given to the conclusions described by its result [21]. In this study, the Map of Characters came out to be both reliable and valid. Thereby, the analysis of the body structure, by applying Body Analysis with the use of the Map of Characters, allows you to measure the percentage of character traces a person holds. Knowing precisely the distribution of people´s character traces enables the body analyst the description of the way of thinking, acting and feeling, as presented by Reich and Lowen Reich, in different daily situations, as well as offering an alternative to selected problems that have emerged from the conflict between a person`s character traces or their traces with the needs and demands of the environment in which they live.

Thus, understanding an individual´s patterns and behaviors can help health care professionals to determine where to concentrate change efforts, find the most suitable treatment, provide realistic expectations about the treatment progress and help the client to develop a greater knowledge of how he/she works.

It is also worth mentioning that the Map of Characters has great potential for use in other contexts, from the area of human development, till in areas that do not directly involve the mental and emotional side of people, but that are seeking personal and professional fulfillment and deepening.

CONCLUSION

The psychometric properties of the Map of Characters were evidenced, setting this instrument up as a potential tool to measure the percentage of character traces that an individual carries.

Satisfactory levels of construct validity were demonstrated by performing the Hypothesis test and reliability through internal consistency and reproducibility. With the validation of the Map of Characters, it is believed that countless people will be benefited in Brazil and worldwide, both in the health area and in other areas, such as human development, personal and professional, since the observation of the body shape, through Body Analysis, by applying this instrument, allows an evaluation of character traces in an individualized and assertive way.

This allows the Body Analyst to provide feedback on thinking, feeling and acting, as well as the applicability of this knowledge in the relief and resolution of problems experienced in everyday life or in recurring demands in the interaction with the environment where you live.

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