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ANALYSIS OF THE RELATION BETWEEN THE INDIVIDUAL'S SOCIAL REPRESENTATION AND PHYSICAL DEVELOPMENT INDICES

ABALAŞEI BEATRICE[1*], HONCERIU CEZAR[1], TROFIN PETRUŢ-FLORIN[12]

ABSTRACT. The objective of our study is to pinpoint the relation between perceived image in social setting and the image determined by physical development indices. Representations are generated by members of a group, thus being part of its structure, but they can be far from reality, which says something about the diversity and complexity of taking over propagated messages. If representation is in agreement with reality, subjects are anchored in the surrounding environment, they perceive life as it is; if the representation of their own body differs from quantifiable indices considered important in the analysis of hypothesis validity, the communication between subjects and the world is deformed. After analyzing the correlations between the independent variables and the dependent variable, we determined the connections between the social representation of the body and body mass – more precisely, body mass index.

Keywords: *social representation, body image, physical development*

REZUMAT. ***Analiza relaţiei dintre reprezentarea socială a individului şi indici ai dezvoltării fizice.*** Obiectivul studiului nostru este de a identifica relaţia dintre imaginea percepută în cadrul social şi cea determinată de indicii dezvoltării fizice. Reprezentările sunt generate de membrii unui grup, formând o componentă a structurii lui, însă poate să fie departe de realitate şi asta vorbeşte de diversitatea şi complexitatea peluării mesajelor propagate. Dacă reprezentarea formată este în concordanţă cu realitatea, subiecţii sunt ancoraţi în mediul ambiant, percep viaţa în parametri reali; dacă reprezentarea propriului corp diferă de indicii cuantificabili consideraţi importanţi în analiza veridicităţii ipotezei, comunicarea subiecţilor cu lumea este deformată. În urma analizei corelaţiilor ce apar între variabilele

[1] *Faculty of Physical Education and Sport, Alexandru Ioan Cuza" University Iaşi, Romania*
[2] *PhD Candidate, grant holder, Romanian Academy, Iaşi Branch, Project SOP HRD/159/1.5/S/ 133675*
[*] *Corresponding author: beatrice.abalasei@yahoo.com*

independente şi cea dependentă, au fost determinate legăturile ce se stabilesc între reprezentarea socială a corpului şi masa corporală, respectiv, indicele de masă corporală.

Cuvinte cheie: *reprezentare socială, schemă corporală, dezvoltare fizică*

Introduction

Man – as entity separated by ethos and within a group – lives in harmony with the environment, forms his own symbols by watching the body at rest or in motion, thus modelling the fluctuating grids of perception, which are conscious or unconscious, but always active. Therefore, he constructs representations that help him anchor himself in the immediate reality and maintain this collaboration. Representing means bringing something to the foreground with the intent of explaining a thing to others; hence, the representation speaks and, because it is able to show reality (subjected to its own interpretation systems), it communicates. In this case, "social representation" – a term proposed by S. Moscovici (1961, *La psychanalyse, son image et son public apud* Moscovici, 1997) – is a particular knowledge method, an intermediary form between concept and image / perception (between showing the real and the abstract).

The idea of our study is to pinpoint the relation between the image created and the real, quantifiable image. Representations are generated by members of a group, thus being part of its structure, but they can be far from reality, and this hegemonic representation dominates most symbolic or affective practices, thus acquiring identical and coercive particularities that can influence the lifestyle practices of a social actor. Representations emerge following a social conflict, a social controversy, antagonistic relationships between members of the society; the genesis is the polemic, which can have a constructive or destructive effect for people in motion. From the space they dominate, from the existential sphere, social actors receive information and transform it depending on their own experience and on the collective one, and they acquire the group behaviour for data that exceed the personal level of perception. The social life of the individual enriches the content of representation, (cognitive, emotional and behavioural) which influences essentially the collection of images that he bears in the memory, such as daily gestures.

In this study, the representation of one's own body refers to the strategy through which the social actor thinks pragmatically – by mediating between the cognitive and the emotional, seeking to understand the information that promotes

a healthy lifestyle in relation to his image in space and passing it through the filter of reason – and manages to communicate for dominating the social, material and ideal environment (Neculau, 1996). In this context, Palmonari & Doise (1986) posit that social representations can be dual, thus presenting a side of the image and one of the significance: each image can be ascribed a significance and each significance, an image. The action through which the social actor gains access to common significances materializes itself in the exploration of the unknown real universe, emerged as a terror caused by ignorance and turned into the desire to know. The product – social representation – outlines an analogy between image and fund. Therefore, the object of a social representation is assimilated to the system of values and norms pertaining to the individual or to his group. In other words, the body of a social actor anchored in the social environment does not have a preset, determined significance, but it represents the relation subject/ object; it is this relation that we seek to underline in our investigation. A representation restructures reality; it reduces the unfamiliar to familiar, to enable the integration of objective characteristics of the object, of previous experiences of the subject and of his system of attitudes and norms.

Objective of the study

Our investigation seeks to pinpoint the causality between the social representation of the subjects' body and their physical development.

Hypothesis

We estimate that the individual's social representation is influenced by physical development indices.

Research variables

1. Social representation – the dependent variable;
2. Body mass, height and BMI – independent variables.

Material and methods

Body mass index (BMI) is an indicator of the individual's health; the interval considered normal by World Health Organization (WHO) in 2000 ranges between 18 and 23 kg/m^2 (Khongsdier, 2005). Under the value of 18 kg/m^2, it is considered that there is a misbalance between weight loss and energetic reserves of the body, which would lead to pathology (James et al., 1988; Shetty & James, 1994; WHO, 1995). Some studies have assessed the probability of determining

body fat percentage through the BMI (Frankenfield et al., 2001; Kyle et al., 2003), taking into account that it can vary as effect of certain factors, such as age, gender, body shape, ethnic group, etc (Norgan, 1994; Gurrici et al., 1998; Wagner & Heyward, 2000; Prentice & Jebb, 2001). It is important to know the BMI value during childhood and adolescence, considering that high values associate with pathologies and even death (Abraham et al., 1971; Baker et al., 2007; Bjorge et al., 2008; Mossberg, 1989; Franks et al., 2010). Kahn et al. (1977) reported that BMI could be altered through exercise (at least 4 hours/ week of walking or jogging). The aspect of body modification was explained subsequently by a study that compared forest workers and researchers: the first category ranged better within normal limits (Gallis, 2009).

Subjects

The volunteers involved in our investigation are male, aged between 19 and 30 (28 subjects). Their characteristics are featured in Table 1.

Table 1. – Characteristics of the experimental group
(mean ± standard deviation)

Characteristic	***Value***
Age (years)	22.71 ± 2.62
Number of subjects	28
Height (cm)	177.11 ± 6.76
Weight (kg)	73.56 ± 12.60
Physical activity level (1-5)	2.29 ± 0.76

Method

The investigation method used a questionnaire to pinpoint the social representation of the individual's body, a standardized tool, meant to show the image of each subject about his own person. The number of items was limited to 17, each with a Likert scale referring to the image ascribed by social actors to the body of the research subjects. The questionnaire was applied to 28 subjects, and Cronbach's Alpha coefficient of internal consistency was 0.933. The value of the coefficient of internal consistency demonstrates that the working instrument measures what we have proposed. Images are an important part of the questionnaire, because each respondent and each opinion of the pertaining group was related to this body image (Fig. 1).

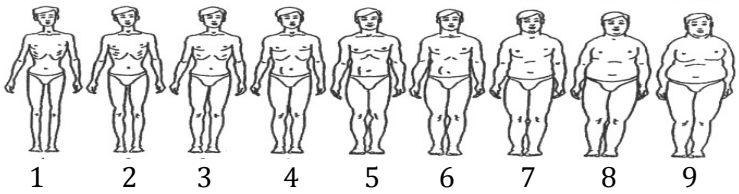


Fig. 1. – Body image models

Testing protocol for independent variables

Height was determined by using a metallic bevel (20/40 cm) and a Bosch GLM80 angle measurer. The subject stood next to a wall with 0º inclination toward the vertical plane, on a floor with the same inclination toward the horizontal plane, in a normal anatomic stance. The bevel was placed with one side on the wall and the other tangentially on the subject's top of the head. The angle measurer measured the distance between the horizontal lower side of the bevel and the floor, thus the subject's height. Body mass was assessed by using the Tanita BC 587 scale. After determining the height, the subject stepped on the scale to find out the body mass. During the assessment, the subject stood tall and he stepped back after the signal. Results were noted on the individual chart of each subject. Body mass index represents the result of the rapport between body mass and height squared.

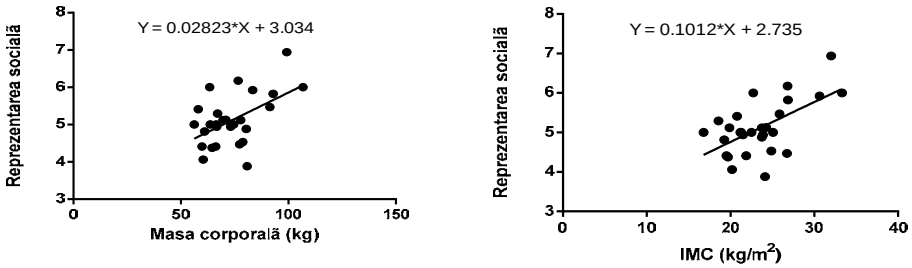
Findings and discussions

Table 2. Correlations between research variables

Pearson r	**Social representation**	**Social representation vs. Body mass**	**Social representation vs. Height**	**Social representation vs. BMI**
R		0.5202	-0.1415	0.5918
95% confidence interval		0.1825 to 0.7482	-0.4889 to 0.2446	0.2807 to 0.7904
R square		0.2707	0.02002	0.3503
P value				
P (two-tailed)		0.0045	0.4726	0.0009
P value summary		**	ns	***

The body is our reference point for self-perception, for relating to the environment, for evolving, for showing ourselves as persons or in relation to others. The body protects the genetic inheritance of each of us and it contributes to integration. Perceived body image is based on education, environment and heredity. They determine the individual to show interest for the image presented by the ethos. Sometimes, this image is in agreement with the values, principles and culture of the individual; other times, the representation of what we are transforms through the relation with society, a model promoted by society or by the pertaining group. It is beyond doubt that each individual acquires a representation about the self, about what he is and what he can improve to be successful, by interacting with the environment. Our findings show a correlation between the social representation of the body (as the image featured in the questionnaire) and two of the research variables: body mass and body mass index (BMI). The correlation between the social representation of the body and body mass is statistically significant, with a significance threshold of 0.004, which suggests that respondents associate their own weight with the social opinion corresponding to the images featured in the questionnaire. The correlation between social representation and BMI is statistically significant; the value of 0.0009 supports the idea that social representation depends on the rapport between body mass and height. Therefore, social image corresponds to the one determined by quantifiable body images, by the 3D image of the body perceived by the subject and by his group. Though BMI presents body image as a whole and social representation adjusts to this result, we found no statistically significant correlation between height and overall social representation. The result can be interpreted from the male perspective of projecting the self toward the outside world, where accomplishing tasks and action prevail over body image. After analyzing the correlations between the independent variables and the dependent variable, we determined the relations between the social representation of the body and body mass, more precisely – body mass index (Graphs 1 and 2). We can predict – with 95% probability – the value of body representation of an individual within the statistical population of our sample, if we know his body mass or body mass index.

Graph 1 shows the statistical relation between the social representation of the body and body mass. The relation $Y = 0.02823*X + 3.034$ (Y = social representation, X = body mass) expresses that the alteration of body mass also modifies the social representation of the individuals within our sample. Therefore, every extra pound adds to the peripheral system of the social representation variables able to change the core by 0.02823 units.



Graph 1. 2– Linear regression between body mass and social representation, – Linear regression between body mass index (BMI) and social representation

Graph 2 illustrates the statistical relation between the social representation of the body and body mass index. The relation Y = 0.1012*X + 2.735 (Y = social representation, X = body mass index) shows that the two variables alter in the same sense. The modification of BMI by unit determines the modification of the social representation by 0.1012 units.

Conclusions

The findings of this study confirmed the initial hypothesis. The body image of the subjects (for people included in our investigation) – determined in the social environment – is correlated with their body mass and with their body mass index. The male gender of our subjects may contribute to the fact that the social representation of their body modifies in the same sense – quantitatively speaking – with their body mass and body mass index, which suggests that subjects are anchored in reality, that they have a pragmatic relation with the environment.

Therefore, this investigation shows the final synthesis of body image, one's own perceived body in correlation with physical development indices; body image depends on concrete indices that mediate the relation between the object and the subject.

The continuation of this investigation can provide important data regarding the connection between body representation created within the social groups – for the same category of subjects – and their body composition, considering that body mass includes these parameters.

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