

SELF-ESTEEM, IDENTITY AND SELF-ASSERTION IN EVALUATING A PROJECTIVE TEST IN PHYSICAL EDUCATION TEACHERS

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[Autostima, identità e autoaffermazione attraverso la valutazione di un test proiettivo in insegnanti di educazione fisica di formazione]

ABSTRACT

The aim of the present study was to examine, in Physical Education (PE) teachers in training, the importance of an aspect that characterizes the personality of the teacher for the success in its professional activity, the Self-Esteem, i.e. the assessment that a person has of herself. For evaluating the Self-Esteem, we used a projective technique: the human-figure drawing (HFD). The research sample consists of 64 subjects (32 male, 32 female), aged between 24 and 41 years (mean value: 34.60 years). The subjects were all teachers in training attending the SISIS (School of Specialization for the Secondary Teaching; course: Physical Education for High School) of the University of Catania (Act 143/04 DM 85/05).

The drawings have been evaluated for body details (total number and essential details), hierarchic level, head: body ratio, and structure.

Key words: PE teachers in training, human-figure drawing (HFD), physical activity.

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Introduction

Physical activity is an important component of a healthful lifestyle, with several physical and psychological benefits for youth⁽¹⁾.

The sports are divided by their request energy in aerobic and anaerobic conditions, choose one or the other seem to affect differently the feeling of fatigue central and peripheral^(2,3,4,5,6); what are the parameters involved in the choice of sport.

It has been observed that enjoyment may be an important factor in motivating adolescents to be physically active^(7,8,9,10). In a national study of youth in grades 4-12, Sallis and colleagues⁽¹¹⁾ found that enjoying PE class was one of the strongest and most consistent correlates of physical activity and concluded that “enjoyment of physical education

classes should be a health-related goal because it is related to physical activity out of school”⁽¹²⁾.

Physical activity in addition to being useful for their fitness is essential in learning processes which also involve the cerebellum, a structure designed now in many respects, a vital element in the automatism of movement, and also involved in the management of emotional processes^(13,14,15).

In recent years, many studies have highlighted that teaching has to be considered a highly stressful occupation^(16,17,18,19,20,21,22,23,24,25).

The aim of the present study was to examine, in PE teachers in training, the importance of an aspect that characterizes the personality of the teacher for the success in its professional activity, the Self-Esteem, i.e. the assessment that a person has of herself.

For evaluating the Self-Exteem, we used a projective techniques the human-figure drawing (HFD)⁽²⁶⁾. These the projective techniques are also used in focus groups for marketing research, for example to help identify potential associations between brand images and the emotions or responses they may provoke^(27,28).

Goodenough⁽²⁹⁾ used HFD as a means of assessing intellectual ability in a developmental perspective. The HFD includes several so-called essential details (HFDess, that is head, two eyes, nose, mouth, two arms, two legs, and head) necessary for the definition of a human figure⁽³⁰⁾.

In sum, there is a considerable amount of research reported in which the human-figure-drawing test has been used in children and in adults in order to highlight problems in their cognitive capabilities⁽³¹⁾.

The sample surveyed said they practiced almost exclusively aerobic activities.

Materials and methods

The research sample consists of 64 subjects (32 male, 32 female), aged between 24 and 51 years (mean value: 33.3 years ± 8.6 for men and 31.2 years ± 6.7 for women). The subjects were all teachers in training attending the SISIS (School of Specialization for the Secondary Teaching; course: Physical Education for High School) of the University of Catania.

The drawings have been evaluated for body details (total number and essential details), hierarchic level, head: body ratio, and structure. The total number of drawn body details (HFDtot) was scored dichotomously with 1 point if present and 0 if absent (Tab. 1) according to Goodenough⁽²⁹⁾.

The so-called HFDess consist of eight body details (head, two legs, two feet, two arms, body, two eyes, mouth and nose) essential to the definition of a man⁽³⁰⁾.

The levels are divided into non-figurative drawings, i.e. diverse scribbles, closed figures, and figurative drawings. Figurative drawings including the headings⁽³⁰⁾: stick figure (the essential items), proportionality (correct proportions of the essential items) and movement (the items arm joint, leg joint, head: shoulder joint).

The classic technique of administration of a projective test was appropriate to the age of the experimental sample and the objective of the search, during the educational activities of the course.

ASSESSMENT FORM
1. MEASURE
1. MOVEMENT
1. DISTORTION AND OMISSIONS
1. HEAD
1. EYES
1. CHIN
1. NECK
1. ARMS
10. HANDS
1. LEGS
1. FEET
1. GRAPHIC PROCESSING
1. STICK FIGURE

Table 1: The total number of drawn body’s details (HFDtot).

Drawings have been considered in the light of projective test Makover⁽³²⁾, the Goodenough⁽²⁹⁾, the Corman⁽³³⁾, to detect those factors of personality are essential to the teacher to create a good educational climate, able to motivate learning, stimulating critical attitudes⁽³⁴⁾.

The development of essential details, the hierarchic level, and the structural characteristics of the drawing (height, head: body ratio, and centeredness) across the adult life span have been described earlier^(35,36,37).

Results

HFD administration was carried out by a trained person who was not involved in the interpretation of the test or in the clinical assessment and diagnosis.

An analysis of drawings and phrases has been possible assigning one point for each item assessed, according to our evaluation form in relation to the objective of the research and the factors used: self-esteem, identity and self efficacy. The drawings were placed near the center, which is typical for drawings made by healthy individuals.

The head, the body, the arms, the legs, the eyes, the mouth and the nose were drawn by everybody. The figure 1 illustrates the number of individuals (men and women) that obtained a score ranging between 0 and 14. Considering the scores positive (>7) for self-esteem, identity and self-assertion, it can be seen that these increases affect most of the group, at about 81% of women and 59% of men.

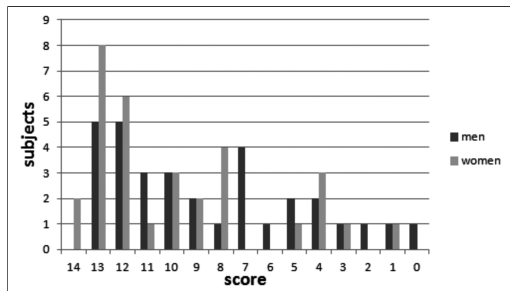


Fig. 1: The number of individuals (women and men) that obtained a score.

As can be seen in figure 2, an analysis of the drawings there is a statistically significant difference between women and men for movement ($p < 0.05$) and the proportionality ($p < 0.05$).

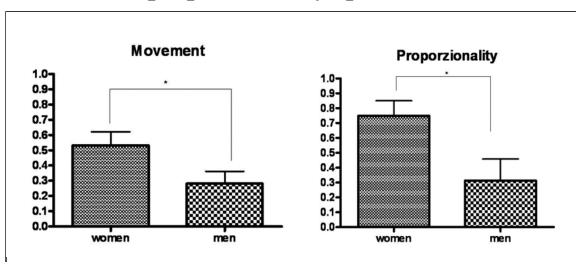


Fig. 2: Analysis of the drawings (women and men) for movement ($p < 0.05$) and proportionality ($p < 0.05$).

However, no significant differences were observed between men and women relatively to drawn essential body details (head, two legs, two feet, two arms, body, two eyes, mouth and nose) (fig. 3) and stick figure (fig. 4).

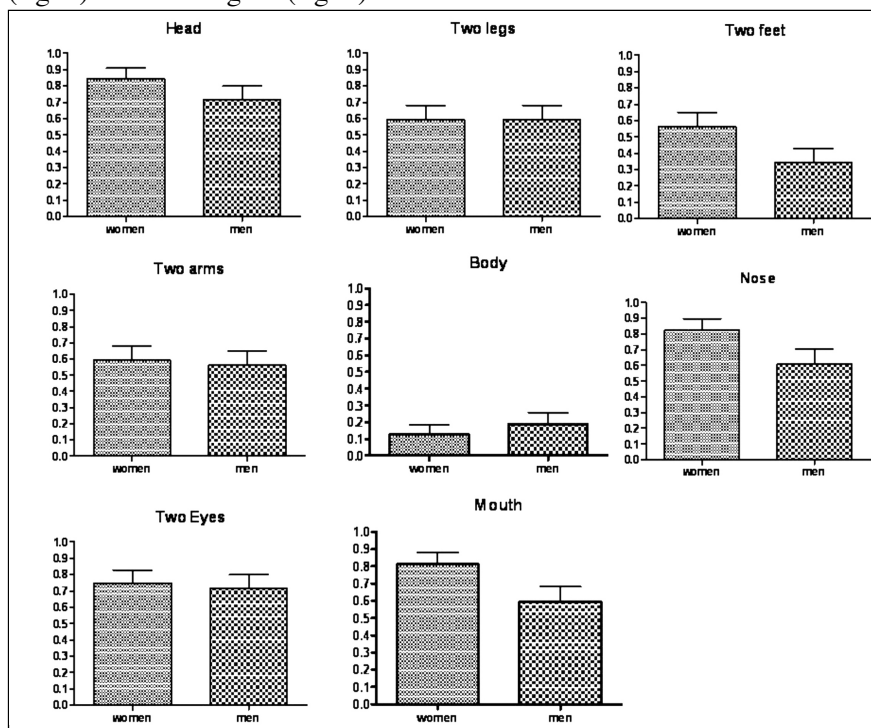


Fig. 3: Analysis (women and men) of capability to drawn essential body details (head, two legs, two feet, two arms, body, two eyes, mouth and nose).

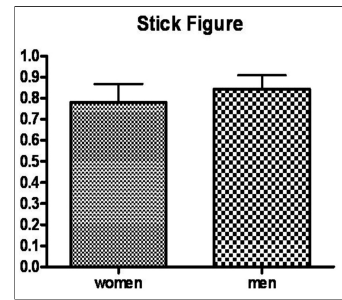


Fig. 4: Analysis of the drawings (women and men) relatively to stick figure

Discussion

When asked to draw the human figure and the subject can draw a complete figure, stylized, stereotyped, or providing an abstract representation of an incomplete figure, that does not include the four main parts of the body (head, trunk, arms, legs,) or fails one of them. Clear so that each drawing reveals different characteristics: understand and give meaning to differences allow further interpretation.

The design of the human figure draw a picture that belongs to every single human being.

For psychoanalysts, the development of body image is accompanied by the status of ego structure. Projective psychology asserts that behavior is no chance, but requires many reasons variously accessible.

Each design was evaluated as the projection of space consideration, namely the projection of his own ideal image, the result of external circumstances, the expression of emotional tone, showing the attitude of the subject toward the situation, towards life and society in general, so the result all these aspects allows the descriptive and interpretive account of the significant aspects. The design can be an expression of conscious or unconscious understanding symbols detectors. Dennis and Raskin⁽³⁸⁾ have proposed an explanation to the placement of the drawings. They found that subjects taught to write from left to right (i.e. Americans and Europeans) tend

to draw on the left-hand side of the sheet, while those being taught to write from right to left (i.e. Arabs) drew their figures on the right-hand side.

As underlined by Biddle⁽³⁹⁾ and Hu⁽⁴⁰⁾, every teacher is an individual with his/her own skills, experiences and personalities features and, therefore, its individual characteristics influence its teaching style and results.

In conclusion we can say that the PE teachers have a good sense of self, which is essential for an educator who is to use the body as a didactic tool. Therefore, we hope for a future place in the world of school of these teachers which appear ready and having the necessary prerequisites for being able to train and promote learning in students of high schools.

References

- 1) U.S. Department of Health and Human Services. *Physical activity and health: A report of the Surgeon General*. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; Atlanta, GA: 1996.
- 2) Alagona G, Coco M, Rapisarda G, Costanzo E, Maci T, Restivo D, Maugeri A, Perciavalle V, (2009), *Changes of blood lactate levels after repetitive transcranial magnetic stimulation*, Neuroscience Letters 450 111-113.
- 3) Coco M, Alagona G, Rapisarda G, Costanzo E, Calogero RA, Perciavalle V, (2009), *Elevated blood lactate is associated with increased motor cortex excitability*, Somatosensory and Motor Research, March, 27 (1): 1-8.
- 4) Coco M, Di Corrado D, Calogero RA, Perciavalle V, Maci T, Perciavalle V, (2009), *Attentional processes and blood lactate levels*. Brain Research, 1302 205-211.
- 5) Perciavalle V, Coco M, Alagona G, Maci T, Perciavalle V. (2010) *Gender differences in changes of motor cortex excitability during elevated blood lactate levels*. Somatosensory and Motor Research, 27(3): 106-110.
- 6) Coco M, Alagona G, Perciavalle V, Cicirata V, Perciavalle V. (2011), *Spinal cord excitability is not influenced by elevated blood lactate levels*. Somatosensory and Motor Research, 28(1-2): 19-24.
- 7) Dishman RK, Motl RW, Sallis JF, Dunn AL, Birnbaum AS, Welk GJ, et al. (2005), *Self-management strategies mediate self-efficacy and physical activity*. American Journal of Preventive Medicine, 29: 10-18. [PubMed: 15958246].
- 8) Motl RW, Dishman RK, Saunders R, Dowda M, Felton G, Pate RR (2001), *Measuring enjoyment of physical activity in adolescent girls*. American Journal of Preventive Medicine, 21: 110-117.
- 9) Sallis JF, Prochaska JJ, Taylor WC (2000), *A review of correlates of physical activity of children and adolescents*. Medicine & Science in Sports & Exercise, 32: 963-975.
- 10) Trost SG, Pate RR, Saunders R, Ward DS, Dowda M, Felton G (1997), *A prospective study of the determinants of physical activity in rural fifth-grade children*. Preventive Medicine 26: 257-263.
- 11) Sallis JF, Prochaska JJ, Taylor WC, Hill JO (1999), *Correlates of physical activity in a national sample of girls and boys in grades 4 through 12*. Health Psychology; 18: 410-415, Springfield.
- 12) Kyriacou C, Sutcliffe J (1978), *A model of teacher stress*. Educ Studies 4: 1-6.
- 13) Gray C, Perciavalle V, Poppele R (1993), *Sensory responses to passive hindlimb joint rotation in the cerebellar cortex of the cat*. Brain Res. Sep 17; 622(1-2): 280-4.
- 14) Giuffrida R, Licata F, Li Volsi G, Perciavalle V (1982), *Motor responses evoked by microstimulation of cerebellar interpositus nucleus in cats submitted to dorsal rhizotomy*. Neurosci Lett. Jun 30; 30(3): 241-4.
- 15) Giuffrida R, Li Volsi G, Perciavalle V (1988), *Influences of cerebral cortex and cerebellum on the red nucleus of the rat*. Behav Brain Res. Apr-May; 28(1-2): 109-11.
- 16) Benmansour N (1998), *Job satisfaction, stress and coping strategies among Moroccan high school teachers*. Mediterr J Educ Stud 3: 13-33.
- 17) Byrne BM (1999), *Teacher burnout: the nomological network*. In: Vandenberghe R, Huberman AM (eds) Understanding and preventing teacher burnout. Cambridge University Press, New York, 15-37.
- 18) Kyriacou C (2001), *Teacher stress: directions for future research*. Educ Rev 53: 27-35. doi: 10.1080/00131910120033628.
- 19) Pithers RT, Soden R (1998), *Scottish and Australian teacher stress and strain: a comparative study*. Br J Educ Psychol 68: 269-279.
- 20) Chan DW, Hui EKP (1995), *Burnout and coping among Chinese secondary school teachers in Hong Kong*. Br J Educ Psychol 65: 15-25.
- 21) Van Dick R, Wagner U (2001.) *Stress and strain in teaching: a structural equation approach*. Br J Educ Psychol 71: 243-259, Article by DOI.
- 22) Guglielmi RS, Tatrow K (1998), *Occupational stress, burnout and health in teachers: a methodological and theoretical analysis*. Rev Educ Res 68: 61-99.
- 23) Bandura, A. (2000), *Cultivate self-efficacy for personal and organizational effectiveness*. In E. A. Locke (Ed.), Handbook of principles of organization behavior, 120-136, Oxford, UK: Blackwell.
- 24) Borg MG, Riding RJ, Falzon JM (1991), *Stress in teaching: a study of occupational stress and its determinants, job satisfaction and career commitment among primary school teachers*. Educ Psychol 11: 59-75.
- 25) Edwards JR, Caplan RD, van Harrison R (1998), *Person-environment fit theory*. In: Cooper CL (ed) Theories of organisational stress. Oxford University Press, Oxford, 28-67.
- 26) Boyle GJ, Borg MG, Falzon JM, Baglioni AJ (1995), *A structural model of the dimensions of teacher stress*. Br J Educ Psychol 65: 49-67.
- 27) Rogers CR (1959), *A theory of therapy, personality and interpersonal relationships as developed in the client-centered framework*. In Koch, S. (Ed.). Psychology: A study of a science. Vol. III. Formulations of the person

- and the social context. New York: McGraw Hill.
- 28) Travers CJ, Cooper CL (1996), *Teachers under pressure: stress in the teaching profession*. Routledge, London.
- 29) Goodenough FL (1926) *The Measurement of Intelligence by Drawings*. World Book Company, New York.
- 30) Buck, J.N., (1966), *The House-Tree-Person Technique*. Revised Manual. Western Psychological Services, Los Angeles, CA Fourth Printing March 1977.
- 31) Cox, MV (1993), *Children's Drawings of the Human Figure*. Lawrence Erlbaum, Hillsdale, NJ.
- 32) Machover K (1949), *Personality projection in the drawing of the human figure*, C.C. Thomas.
- 33) Corman L (1967), *Le test du dessin de famille dans la pratique médico-pédagogique*, Presses Universitaires de France, Paris.
- 34) Levy S (1967), *Projective figure drawing*. In Hammer, E.F. (Ed.). *The clinical application of projective drawings*. Springfield. I.L.: Thomas, 1958.
- 35) Ericsson K, Hillerås P, Sundell ML, Winblad B, (1997), *Human-Figure-Drawings from 4 to 104 and in people with impaired cognition*. Int. J. Pract. Appr. Disabil. 21, 8-15.
- 36) Ericsson Kjerstin, Winblad Bengt and Göran Nilsson Lars, (2001), *Human-figure drawing and memory functioning across the adult life span*, Archives of Gerontology and Geriatrics 32, 151-166.
- 37) Ericsson, K (1985), *Kan en figurteckning ritad vid 4 år predicera barnets fortsatta utveckling? En uppföljning av vissa delar av 4-årskontrollen fram till 12 år. (Is it possible to predict the future development of the child from the human figure drawing made at age 4? An evaluation of some aspects of the 4 year medical and psychological check-up)*. Doctoral Dissertation Acta Univ. Ups. Studia Psychologica Upsaliensia 11, Uppsala (in Swedish).
- 38) Dennis, W., Raskin, E. (1960), *Further evidence concerning the effect of handwriting habits upon the location of drawings*. J. Consult. Psychol. 24, 548-549.
- 39) Biddle S.J.H., Fox K.R., Boutcher S.H. (Eds.), (2000), *Physical activity and psychological well-being*, Routledge, New York.
- 40) Hu L, McAuley E, Elavsky S (2005), *Does the Physical Self-Efficacy Scale Assess Self-Efficacy or Self-Esteem?*, Journal of Sport & Exercise Psychology, 27: 152-170.

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