# ASSESSMENT OF SELF-ESTEEM AND PHYSICAL WELL-BEING IN POST-PANDEMIC TIME

# VALUTAZIONE DELL'AUTOSTIMA E DEL BENESSERE FISICO IN TEMPO POST-PANDEMICO

**Lucia Pallonetto**
**Università degli Studi Salerno**
**lpallonetto@unisa.it**
**0000-0001-5839-5592**

**Rosanna Perrone**
**Università degli Studi di Salerno**
**rperrone@unisa.it**
**0000-0002-5896-5644**

**Carmen Palumbo**
**Università degli studi di Salerno**
**capalumbo@unisa.it**
**0000-0001-5683-3907**

**ABSTRACT**

The research aims to analyze the levels of self-esteem and well-being of adolescents (252 students), assessed through the TMA test (Braken, 1992). The school, a complex educational institution, must be able to provide its students with the right tools, as well as the necessary resources to carry out its function of adequate support. An integrative element can be represented by the motor activity conceived as a «controlled stress model» (Peluso Cassese, 2012) capable of modulating emotions in support of the growth of self-esteem levels.

La ricerca si pone come obiettivo l'analisi dei livelli di autostima e benessere degli adolescenti (252 studenti), valutati attraverso il test TMA (Braken, 1992). La scuola, complessa istituzione educativa, deve essere in grado di fornire ai suoi studenti i giusti strumenti, nonché le risorse necessarie affinché svolga la sua funzione di supporto adeguato. Elemento integrativo può essere rappresentato dall'attività motoria concepita come «modello di stress controllato» (Peluso Cassese, 2012) capace di modulare le emozioni a sostegno della crescita dei livelli di autostima.

**KEYWORDS**
Test TMA; Corporeality; self-esteem
Test TMA; Corporeità; Autostima

**Introduction[1]**

During the pandemic, the body was deprived of its perceptive potential as well as marginalized, and, for this reason, it is interesting to understand how, especially in adolescence, new feelings emerged that were never experienced before and how the repercussions of a forced decrease or exclusion of the bodily experience that had consequences, both on personal and affective experience and on school performance, which involved students attending the third year of secondary school, carrying out almost the entire first two years in distance learning mode.

Two years in which the students experienced the transformations of their bodies, their environment and their cognitive experience, which inevitably led them to reflect on a main research hypothesis: how did their perception of themselves change and which are the consequences of the deprivation of non-verbal communication and bodily experiential experience?

Non-verbal communication of the gestural, mimic and proxemic type, as well as actual bodily contact, are not supplementary or supportive elements of verbal communication, but essential modes of communication, provided with their own referential, authentic, irreplaceable value and with undoubted evolutionary value (Stern, 1985; Beebe & Lachmann, 2003). The effort that adapts to reality, although present in everyone, undergoes distinctions based on the personality, experiences and resilience of the individual. It is more necessary to evaluate the psycho-physical state of the youngest age groups and to identify measures and tools to enable them, together with their point of reference, to elaborate their life project and to preserve them from possible discomforts and/or pathologies, unfortunately very frequent among young people in modern society. «Through the motor dimension the pupil is encouraged in the expression of communicative instances and discomforts of various kinds that he/she is not always able to communicate with verbal language» (MIUR, 2012, p.76). The path to knowledge depends on the degree of his exploratory activity, his ability to perform motor actions in the world around him, as well as practical and purposeful behavior (Benelli et al., 1980; Maturana &; Varela, 1984). «The ability to independently move, requires, and at the same time facilitates, new developmental stages in both the cognitive and social spheres, offering new learning opportunities about the environment, the organism, and the relationships between them» (Meraviglia, 2012, p. 75).

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[1] Although the article is the result of a common reflection by the authors, it should be noted that Lucia Pallonetto is author of the work and edited the paragraphs: "6. Results and discussion" and "*Conclusions*"; Rosanna Perrone is author of the work and edited the paragraphs: "*Introduction*"; "*2 Self-confidence and the body dimension*"; Carmen Palumbo is the author and scientific coordinator of the work and edited the paragraphs "*2. Methodological tools and procedures*; "*3. Aim*"; "*4. Sample*";"*5.* Data analysis".

## 1. Self-confidence and the body dimension

Adolescence is that time in which the individual should be able to form the substratum that will allow him throughout life to recognize and experience positive and negative events, drawing from them the experience that he will recognize as discomfort or comfort in relation to the different dimensions of experience. So, experiencing is at the basis of the cognitive, emotional and bodily, as well as educational, spheres.

It is possible to think that these experiences are due to the perception of the bodily self and that in such a perspective, and specifically in adolescence, it undergoes continuous metamorphosis due to physical transformations, but also to the experiences underlying the bodily and emotional past. The discovery of one's corporeity is a difficult process, but having the means to favor both emotional and bodily experience will allow the adolescent to build his own identity, continually threatened and put to the test by changing self-perceptions. The first step in providing tools to cope with this complex process of formation of the personality is undoubtedly to explore the adolescent experience through the study and perception of bodily experience, and thus approach an evaluation of self-confidence on several levels.

In order to respond to the complexity of the lack of relationship between body and environment, the Multidimensional Test of Self-Confidence (T.M.A.) was used. This tool conceives of self-confidence as a multidimensional and factorial scheme, which perceives the different personal spheres, specifically in this study the correlations existing in relation to emotionality, school success and body experience were analyzed.

The aim of the survey was therefore to analyze the perception of self-confidence experienced by adolescents, in relation to body experience and contextually to school success as well as to the perception of others and self-perception. Self-confidence itself remains the key for all three scales considered.

Self-confidence is resulting, and it is good to pay attention to the tense used (present participle) because if conditioned by personality development, by events, it is a cognitive scheme that is learnt but that is conditioned by the continuous change of events, a continuous elaboration coming from the integration of different areas of experience, fundamental for the construction of self-image, which can be observed by investigating the areas related to family, interpersonal and school relationships, to emotional and body experience, as well as to the ability to act in one's own life context by producing actions that have a significant impact on one's environment.

Experience is the set of those events, sensations and emotions lived, but that past made up of material that we could define as 'raw' that must then be reworked in a harmonious manner and catalogued and meaningfully recognized. The main objective is therefore to try to explore the adolescent's capacity to self-perceive

and perceive him/herself in relation to others compared to the fundamental areas of one's own experience that inevitably influence one's daily life, in a continuous research for one's own identity (Winnicott, 1995).

Regarding the body experience, both the body schema and the body image could be defined as bearers of numerous questions concerning not only how and in what way we perceive our body, but also how the other perceives us.

William James argued that: «whenever two people meet there are actually six people present. For each man there is one for how he believes himself, one for how the other sees him, and one, finally, for how he really is'» (James,1890).

## 2. Methodological tools and procedures

The present research «uses qualitative and quantitative approaches, with the aim of finding the best possible answers to the question that originated the research itself» (Trinchero &; Robasto, 2019, p. 2). Therefore, in the initial writing of the project, it was decided to adopt a descriptive study system with a quasi-experimental design. The research design at the preliminary stage involved the following steps:

- formulation of the hypotheses and research questions;
- formulation of the object of study and research objectives;
- definition of the variables and how to detect them;
- identification of the contexts in which to implement the study;
- definition of the periods of time;
- analysis of possible data.

The research carried out followed the steps described below. A meeting was held with the teachers and the school headmaster to plan the methods (presentation of the measurement instruments and the relative methods of administration) with which to carry out the research. This was followed by the administration phase of the test, which was administered anonymously during school hours, with the parents' consent.

The data collection took place in the first half of the current school year (2022/2023) and the administration was collective and took place in the presence of the teacher. No time limits were imposed on the compilation of the tests and each student had the opportunity to ask for any explanations. Once the administration phase was completed, the scoring, interpretation and analysis of the collected data were carried out.

The instrument used for the administration was the Multidimensional Test of Self-Confidence (TMA) (Bracken, 2003): the test consists of a questionnaire made up of six scales and is designed to assess self-confidence in its various dimensions, in young people aged between 9 and 20. It was administered in paper form and took about 1 hour per class.

The test is structured by 6 self-descriptive scales corresponding to 6 observation areas, each consisting of 25 items for a total of 150 items evaluated on a Likert scale. Each item provides four response possibilities: absolutely true (AV), true (V), not true (NV), not absolutely true (NAV).

It is designed to measure various components of self-confidence as theorized by Bracken. It evaluates self-perception in each of the following six subdomains: sensitivity, interpersonal relationships, body experience, environmental control competence, school success, family life. These scales, although interrelated, are sufficiently independent to be treated as individual field, possessing sufficient specific variance to be considered a singularly valid measure of self-esteem (Bracken, 2003).

Self-confidence is considered to be a learned evaluation that the individual calculates on himself on the basis of continuous environmental feedback, his own successes and failures, and established relationships with others. Self-confidence, according to Bracken (1992) can therefore be considered a response mechanism, learned over time and in continuous transformation. The TMA is based on a model within which it is assumed that the different dimensions of which self-confidence is composed, are connected to the different contexts in which the individual acts.

Therefore, self-confidence is a behavioral and cognitive pattern that develops according to the principles of learning, so the following scales were investigated in order to test our hypothesis regarding the impact of the intervention on the dimension of self-confidence: sensitivity, school success and bodily experience.

### 3. Aim

The Covid-19 pandemic had many consequences, cognitive, psycho-emotional and motor, especially because this experience marked the developmental phase, such as the growth during adolescence, of the young people of our time.

For young people, growing up during the pandemic constituted a sort of challenge to a suddenly changed and unusual scenario.

Starting from the assumption that educating on corporeity represents a strategy for a didactic transmission of knowledge based on the development of the individual and collective abilities of young (and not so young) people, the study, in its articulation and complexity, focuses on how students perceive themselves and their levels of self-confidence and how much this can affect their personal sphere and everything concerning behavior, growth and thoughts.

### 4. Sample

The research involved a convenience sample of 252 students from two Institutes in the province of Salerno, specifically 149 students from the Galvani Institute and 103 from the Opromolla Institute, aged between 12 and 13 (M=118; F=134) (tab.1), attending lower secondary school. The sample was selected according to non-probability sampling. General information on sporting practice was also collected from the sample, determining how many children practiced sport and how many did not (tab. 2). Specifically, 118 children, who do not practice motor activity and 134 children who practice extracurricular motor activity were identified.

| Gender | | Frequency | % |
|--------|------|-----------|-------|
| | F | 134 | 53,2 |
| Valid | M | 118 | 46,8 |
| | Tot. | 252 | 100,0 |

Tab.1 Gender frequency

| Sport | | Frequency | % |
|-------|------|-----------|-------|
| | no | 118 | 46,8 |
| Valid | si | 134 | 53,2 |
| | Tot. | 252 | 100,0 |

Tab.2 Sport frequency

## 5. Data analysis

The qualitative-quantitative data acquired during the administration of the tests (TMA Test), together with the general information of the sample (biographical data and general information on sports practice) were recorded and coded in the MS Excel v.2019 environment.
Subsequently, all data were imported into the IBM SPSS Statistics v.28 environment.
The complete data set was subsequently submitted to the following analyses
- analysis of the entire sample, with frequency tables for the qualitative variables (gender, age, sports practice)
- the normality test (Skewness and Kurtosis) was carried out to test the statistical significance of the gender, sports practice and the variables of the TMA Test difference
- descriptive statistics of quantitative variables (mean, median, standard deviation, minimum, maximum, skewness, kurtosis, percentiles)

- creation of histograms to assess the distribution of variables (mean, median, standard deviation, minimum, maximum, skewness, kurtosis, percentiles)
- scoring using the proportional method
- classification of the TMA by describing the degree to which the self-confidence expressed by the student on each specific area and on the total scale is positive or negative.

## 6. Results and discussion

Before and after the transformation of the data, it is necessary to measure and check the fundamental characteristics of their distribution, to verify the distributional form of the variables, to evaluate their symmetry and the presence of any outliers.

The comparison of these two sets of indices, those before the transformation and those after, allows to evaluate their effect.

The methods proposed in the literature are numerous. If a frequency distribution is available, the Shapiro-Wilk test can be used.

In statistics, normality tests are used to determine whether a data set is well modelled by a normal distribution and to calculate the probability that a random variable underlying the data set is normally distributed. On the basis of the normality test in graphs 1 to 3 (Skewness and Kurtosis) calculating the distribution we note that kurtosis and skewness are necessary but not sufficient conditions to assess whether a distribution is Normal. Therefore, the results confirm that the variables have values close to 0 for the two indices. The histograms show the value of the distribution of the data.

The descriptive statistics of the TMA permits to quantify, in terms of mean values and standard deviations, the differences of the variables through the analysis with comparison by gender and by sports practice.

The classification type of the TMA provides a distribution of the degree to which the self-confidence, expressed by the student on each of the six specific areas and on the total scale, is positive or negative.

Once the self-confidence ratings were determined for each scale and for the total scale, it was possible to determine that the students on the sensitivity scale emerged with an average of 65.07; for the school success scale, a mean of 66.99 emerged; for the body experience scale, a mean of 65.12 emerged. The standard score obtained for the scales and the mean value in the subjects examined is 66.35. Therefore, when comparing the obtained mean scores and the self-confidence ranking corresponding to standard score ranges, the students confirmed a very negative self-confidence (tab.4).

To determine the percentile rank associated with each given standard score of each investigated scale, it was found that:

- The overall standard score of the sensitivity scale of 58 is equivalent to the 0.26th percentile;
- The overall standard score of the school success scale is 68 is and it is equivalent to the 2nd percentile;
- The overall standard score of the body experience scale is 74 and it is equivalent to the 4th percentile.

So, the students' self-confidence, as evaluated, is better only in 2% of the individuals in the standardization sample and, by inference, the population.

In the ANOVA, a statistical procedure that compares two measurements either on the same sample or between two related groups on the same continuous dependent variables, we set out to determine whether there is statistical evidence on the difference of the mean between the scales of the TMA and thus whether it is statistically significant and thus different from 0 (Tab.5).

It emerged that:

- related to the time factor, the findings between those who practice sport, those who do not practice sport and the total standard scores reveal a significant change over time with a statistically significant p-value (p-value= <. 005). On the other hand, there were no statistically significant differences (p-value > 0.05) between those who practice sport and those who do not.
- The interaction between time and group was not statistically significant (p-value > 0.05).

Finally, the histograms showed that self-confidence, is

- slightly negative in the gender comparison (>70 in males and <65 in females) (Graph.5);
- slightly negative in the comparison between those who practice sport and those who do not (76-85), confirming that they also responded in a receptive and positive manner, already having aptitudes for movement, despite having suffered an abrupt interruption of activities due to the pandemic event (Graph. 4).

Concerning self-confidence, the research results are slightly significant in relation to both gender and age. Girls present a more difficult self-perception: in fact, the biological and physiological elements of the body in early adolescence create differences in body experience and recognition. In boys, on the contrary, levels of self-confidence remain substantially higher, which is attributable to a greater vulnerability of girls, affected by the evolutionary changes of the body that emerge

already in early adolescence, and which can be explained by the different impact that pubertal development has on the two sexes.

The subjective perception is determined by numerous variables, in addition to self-confidence and perceived self-efficacy, biological, cultural and social factors certainly play an important role (Bandura, 2000). The teachers' role then takes the form of an element of facilitation and mediation, especially in the significant didactic action that can be implemented through effective educational projects that take into account individual differences. Well-being, also conceived in an educational sense, must therefore be located and fostered by conditions of balance between the individual, his needs, his resources and the environment in which he lives.
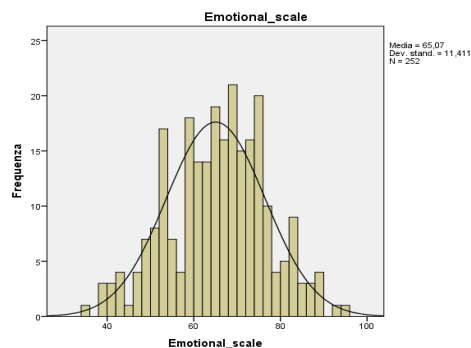


Graph.1 Normality test
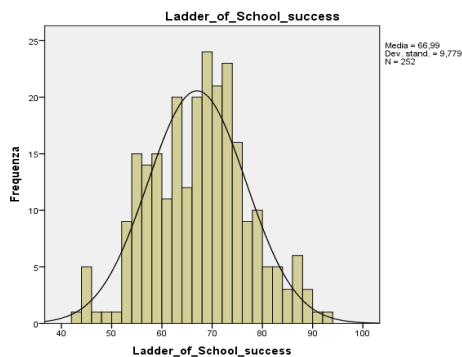


Graph.2 Normality test
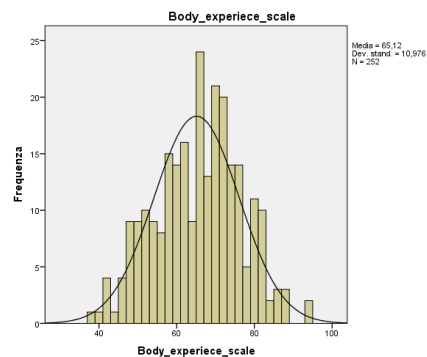


Graph.3 Normality test

| | N | Minimum | Maximum | Mean | Std Deviation. |
|---|---|---|---|---|---|
| Emotional_scale | 252 | 35 | 95 | 65,07 | 11,411 |
| School_success scale | 252 | 43 | 92 | 66,99 | 9,779 |
| Body_experiece_scale | 252 | 38 | 93 | 65,12 | 10,976 |
| Standard_Total_score | 252 | 45 | 103 | 66,35 | 12,463 |

Tab. 4  Descriptive statistics

| | | Emotional_scale | School_success scale | Body_experiece_scale | Standard_Total_score |
|---|---|---|---|---|---|
| N | Valid | 252 | 252 | 252 | 252 |
| | Absent | 0 | 0 | 0 | 0 |
| Mean | | 65,07 | 66,99 | 65,12 | 66,35 |
| Median | | 66,00 | 68,00 | 66,00 | 67,00 |
| Std deviation. | | 11,411 | 9,779 | 10,976 | 12,463 |
| Skewness | | -,139 | ,038 | -,109 | ,222 |
| Skewness std error | | ,153 | ,153 | ,153 | ,153 |
| Kurtosis | | -,200 | -,207 | -,424 | -,039 |
| Kustosist std error | | ,306 | ,306 | ,306 | ,306 |
| Minimum | | 35 | 43 | 38 | 45 |
| Maximum | | 95 | 92 | 93 | 103 |
| Sig. | | ,000 | ,331 | ,000 | ,000 |
| | 25 | 58,00 | 60,00 | 58,00 | 58,00 |
| Percentiles | 50 | 66,00 | 68,00 | 66,00 | 67,00 |
| | 75 | 73,00 | 73,00 | 73,00 | 74,00 |

Tab.5 Anova
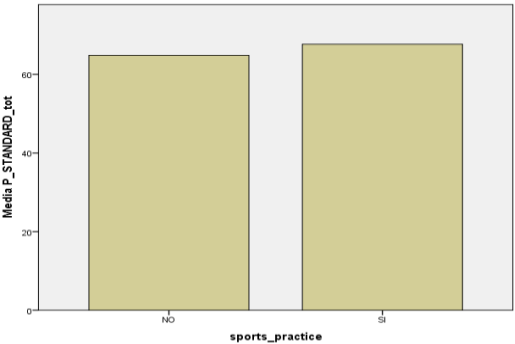


Graph.4 Mean sports practice
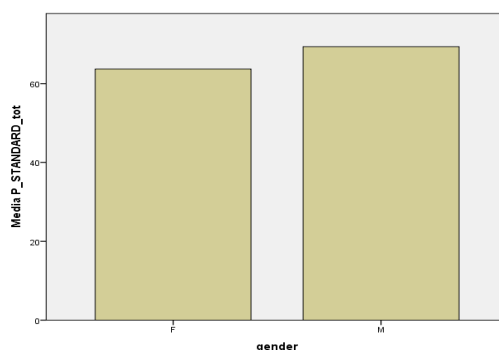
Graph.5 Mean gender

**Conclusions**

This study confirmed that the self-confidence of the entire sample was very negative. This fact can be explained in relation to the physiological changes that occur at a cognitive and physical level at this particular age between 12 and 13 years and the closure due to the pandemic event, thus causing a break in the relationship between the person and the context. The time spent in the pandemic, was a time of stasis, of congestion, and of freezing as experienced during the various lockdowns that interspersed and followed one another, where the locations became unique and monotonous allocations, in a period in which it was difficult to recognize oneself, to see habits and events change, where the place of action was a place frozen in time, in which routine habits with repetitive and limited stimuli took hold.

The negative results concerning the self-perception detected by the students show us how corporeity is the full protagonist in the acquisition of competences, where the learning environment, the context, social relations are very important; but there is something that allows to recognize oneself as a user capable of influencing events, that is the importance of experiencing the first means of communication and interaction: the body, an indispensable resource for growing and developing one's potential, as well as the first source of receiving positive and negative sensations. Perceiving one's own actions in an insecure and inadequate manner can lead to an erroneous and pessimistic view, which would lead one to experience failures, especially in the scholastic field (as the scale analyzed concerning the domain of school success shows) as obstacles that are difficult to contain.

According to this view, self-confidence is directly linked to the relationship that arises from comparing successes achieved against relative expectations (James, 1890). This conception has a flaw, however, because it does not consider the context, thus neglecting the setting as the theatre of action, according to the theory of affordances (Gibson, 1979).

The theory of affordances «implies that to see things is to see how to get about among them and what to do or not do with them» (Gibson,1979, p.223). This theory reconsiders the value of the elements of the action environment, since if a subject operates in a given environment he will perform actions that will have repercussions not only at a contextual level, but also and above all at a personal level, since environmental factors help to improve or worsen his performance (Rosemberg et al. 1995), and in this key the concept of self-efficacy, a combination of two other similar processes self-evaluation and self-acceptance (Bandura, 2000), makes room for itself.

Moreover, if emotions are the fundamental motor of each individual's existence, they move actions, at the same time they can harm and be real hindering elements even with respect to normal cognitive functions, hence learning. Learning to consciously manage emotions requires emotional self-regulation, the latter understood «as the ability to manage oneself in trying to implement what has been decided with continuity and systematicity» (Pellerey, 2013).

The school, a complex educational institution, must be able to provide its students with the right tools, as well as the necessary resources for it to carry out its function as an adequate support, capable of creating social and learning environments that can positively influence the creation of adequate behavioural patterns connected to self-confidence and school success, as well as provide the practicability of the body experience. An integrative element can be represented by motor activity conceived as a «model of controlled stress» (Peluso Cassese, 2012, p.64) capable of modulating emotions to support the growth of self-confidence levels.

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