

## The Relationship Between the Self-Esteem and the Effective Learning: A Case of Study in Primary School (pp.357-370)

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### **Abstract:**

Learning is an active process of the child and to be effective it must be based on a strong motivation to learn. The educational literature shows that the motivation to learn arises primarily from a good level of self-esteem. This chapter deals with the relationship between self-esteem and school learning. The aim is to investigate the relationship between the level of self-esteem and school performance.

A group of pupils, attending the fifth class of Primary School, was put through TMA test (Italian version of the multidimensional self-esteem test of Bruce Bracken, 2003) to measure the level of self-esteem. Overall, the self-esteem that a pupil has about himself depends on the importance he attaches to each of the components that relate to different aspects of his life (personal relationships; family relationships; scholastic success; environment capability; sensibility; sense of self mobility).

Through the Lisrel Model, the individual scores of the TMA test have been linked with the assessments of the school performances. The aim of the survey is to investigate the correlation between self-esteem and school performance. More specifically, to investigate whether pupils with low self-esteem have a poor school performance and instead a good self-esteem corresponds to a high level of school performance. Several different modeling strategies may be considered for the analysis of such data. In this chapter it is shown the LISREL Model with latent variables. It relies on structural equation models and provides a theoretical specification of the causal relationships among the observed variables.

It is important that all teachers should be able to evaluate the level of self-esteem in pupils and to organize a correct program for the control of it. In fact who does not trust in itself and achieves a low school evaluation is not able to improve its performance; nevertheless who also has a high level of self-esteem must be guided to get over temporary difficulties. So this chapter also shows a simple technique that the teachers should use to increase self-esteem and interest to learning in pupils of Primary School.

*Chapter 21*

## **THE RELATIONSHIP BETWEEN THE SELF-ESTEEM AND THE EFFECTIVE LEARNING: A CASE OF STUDY IN PRIMARY SCHOOL**

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### **ABSTRACT**

The learning is an active process of the child and to be effective must be based on a strong motivation to learn. The educational literature shows that the motivation to learn arises primarily from a good level of self-esteem. This chapter deals about the relationship between self-esteem and school learning. Exactly the aim is to investigate the relationship between level of self-esteem and school performance.

A group of pupils, attending the fifth class of Primary School, was put through TMA test to measure the level self-esteem. Overall the self-esteem that a pupil has about himself depends on the importance he attaches to each of the components that relate to different aspects of his lives (personal relationships; family relationships; scholastic success; environment capability; sensibility; sense of self mobility).

With the Lisrel Model the individual scores of TMA are correlated with corresponding assessments of the school. The aim of the survey is to assess the correlation between self-esteem and school performance, more specifically investigate whether pupils with low self-esteem have a poor school performance and instead a good self-esteem corresponds at a high level of school performance. Several different modelling strategies may be considered for the analysis of such data. In this chapter it is showed the LISREL Model with latent variables which relies on structural equation models for a theoretical specification of the causal relationships among the observed variables.

It is important that all teachers are able to evaluate both the level of self-esteem in pupils and to organize a correct program for control of the self-esteem. In fact who does

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not trust in itself if it achieves low school evaluation it is not able to improve its performance; nevertheless also who has a high level of self-esteem must be guided to get over difficulties temporary. So this chapter also shows some simple techniques that the teachers should use to increase self-esteem and interest to learning in pupils of Primary School.

## 1. INTRODUCTION

Self-esteem can be defined as a objective perception of self and of own personality, which refers to that set, more or less organized, of representations that ones has of himself: we can call "*idea of self*". Self-esteem allows to make a inventory of personality, ability, competence, relationship. If ones has a good level of self-esteem, so it can say "I know myself, I know assess myself; I can clear every hurdle. I am master of my future! I can!".

However the self-esteem must not be confuse with self-awareness that is perception without judgement. The self-awareness, in fact, refers to a willingness to observe itself and absorb information about itself, without necessarily trying to change anything or rationally understand the origin or implications of own condition. So the self-awareness is limited purely at the observation of self. The self-awareness is the answer to the question, "What are my behavior patterns?". In some ways it could say that self-esteem is the foundation of both self-knowledge and self-awareness.

"How I am? I am intelligent, attractive, competent, physically fit, respectable, authoritative, friendly? And how? A little, moderate, much? More or less than others? What are my weaknesses, and such strong ones? In which successes or failures I can meet ?". These questions are implicitly always present in mind of many people into all what happens to them and they assume a significance of self-assessment.

The self-assessment, positive or negative, comes to interpret self even under most unlikely. For exemple, often the child tends to think that his parents were divorced because he is evil and has made them angry; the person who has suffered violence fears to have helped in some way with his recklessness or with an attitude provoking the attack it; the lucky that wins the lottery tends to think that he deserved the win, for the persistence through which continued to the fate groped etc. ...

In any case, at any time, people feel a strong need to know what worth. This process of understanding feels the weight of many influences and in consequence hardly the outcome is the result of a process of reflection objective and rational.

Some research in social psychology have shown that people prefer interact with those who share and confirm their self-concept (self-assessments included). Who has a specific idea, paradoxically, tends to join in all who shows to confirm it.

Not only that. Our attention and our memory systematically select the events of the reality (or of the past) that tend to confirm the idea that everyone has of oneself. In any case, numerous studies have shown that low self-esteem affects negatively on the learning process and, more generally, performance social.

It is clear that self-esteem is highly dependent by the expectations of subject.

The *idea of self* is formed during early childhood, through his relationship with the "significant others", such as parents, grandparents, etc. A ratio of acceptance sets the stage for a solid and stable self-esteem in adulthood.

Still, the concepts related to the self, are not fixed once and for all in the personality, in fact they are changed (albeit slowly) over a lifetime by factors such as the social comparison and the interpretation of roles.

The low order of self-esteem may cause severe states of depression in which the individual rejects and devalues himself. Thus self-evaluation that is the basis of self-esteem can be expressed as overvaluation or undervaluation as consideration for a wrong that each can have of himself, than the other, or with respect to the situation where each time it operates.

Abraham Maslow (1908-1970), in a famous text entitled "Motivation and personality", elaborated a theory of human behavior based on needs. He says that a need is a lack of psychophysical organism, which pushes the subject to a compensatory behavior. For the American psychologist, it is possible to identify a real hierarchy human needs:

- 1) Physiological needs (hunger, thirst, etc.);
- 2) Security needs and protection;
- 3) Needs of belonging (love, acceptance, identification);
- 4) Needs of esteem, prestige, success;
- 5) Needs of self-realization (realizing their identity and their expectations and occupying a satisfactory position in the group).

Maslow claims that a need can not be satisfied until it not be satisfied the need that is the rank above it. So it can guess how the need for self-esteem is closely linked to that of affection, acceptance and identification.

## **2. SELF-ESTEEM AND SCHOOL: THE SOCIAL ENVIRONMENT AND THE PEER-COOPERATION**

Teaching is, without doubt, one of the most important professions in our society, because teachers are responsible for one of the most valuable human resource: the human intellect. Going to school, says the psychologist Albert Bandura (1997), it can be considered the toughest challenge both from the point of view of knowledge and of emotionality that the child faces in its growth path.

It is very important that operators, teachers and parent pay attention to the modification of the school environment. In fact the school environment presents a wide range of differences about the relationship between peer. The school environment is strongly influenced by the physical and psychological growth that characterizes children and adolescents and by the sudden changes of the their behavior and relationship.

The most effective way to manage the school environment is to modify the reciprocal influences that exist in relationship between coetaneous to the scholastic environment advantage. The literature has shown that the changes of the social environment exert some kind of change over the behavior of the individual and that this condition is permanent.

To create in the classroom an atmosphere of awareness and the appreciation of individual differences, it is necessary to direct to the respect of the uniqueness of human characteristics

and of the unconditional acceptance of others. A positive school environment can definitely facilitate the emergence of a more effective level of the self-esteem.

Many authors agreed that the school can improve and maintain self-esteem of pupils through:

- a collaborative and active learning;
- the legitimacy and appreciation of differences;
- the reflection on learning processes.

Students and teachers work and learn together and, most importantly, they learn to learn together.

Although self-esteem is developed on the basis of the successes and failures of a person, and predicts it will also influence future academic performance.

A student, characterized by low self-esteem (especially at school), will tend to approach the future learning experiences with hesitation and s/he will be held back by a sense of failure.

Therefore the teacher must make the student a more real dimension of the self, which is to better understand himself and his abilities. One technique of considerable power and effectiveness on children and adolescents is the Brainstorming. The term, introduced by Osborn A.F., indicates "a special technique of problem solving" in the group: the teacher encourages the participants to freely express their ideas about a particular situation-stimulus, such as conflict resolution in the classroom. In this way, students expand their interests, touching existential problems, without realizing it, and they expand their views without fear of incurring criticism.

With this method, each child learns to know himself better in physical appearance, in the psychological and in the social experience.

The teacher can further contribute to improving the self-esteem of the student by helping them to cope with negative experiences without the use of the criticisms ("You are wrong again!", "You are denied ... "), of the sermons ("We are on the usual, how many times have I said that ..."), but fostering in him a reflection that leads to the solution of problems ("We look together ..."). This will help learners to generate new solutions, to assess its consequences and to collect the information needed to solve a problem. At the same time the Brainstorming method gives both at the student that is in difficult and at the others of the group class an example of how to overcome obstacles in life.

### **3. THE TEST MULTIDIMENSIONAL SELF-ESTEEM OF BRUCE BRACKEN (CALLED "T.M.A. TEST" IN ITALIAN VERSION)**

The T.M.A. is a professional test to evaluate the self-esteem level of children and adolescents, between years 9 and 19, that can be used, for example, by educational specialists and teachers as an aid to set a educational schedule that takes into account the "self-esteem factor".

It is believed that self-esteem is a multidimensional concept. In fact Bracken measures the self-esteem in the adolescent through the test T.M.A. identifying six dimensions:

- 1) Interpersonal Relationships (IR): it measures the perception of positive relations held with other individuals;
- 2) Environment Capability (EC): it measures the ability to self-perception to solve problems, to achieve goals, to influence their own environment;
- 3) Sensibility (S): it measures the ability to recognize, assess, describe and control
- 4) own emotional reactions;
- 5) Scholastic Success (SS): it measures the ability assessment of their own school performances;
- 6) Family Relationships (FR): it measures the perception of their own role in family. In this contest, the family is to be understood as any individual (father, mother, parents, grandparent, adoptive parent, sibling, or other) from which the child or adolescent depends for caring, safety and education;
- 7) Sense of self mobility (SSM): it measures the self-perception of their own beauty and phisical performance.

The self-esteem can be present in different way in the six areas considered in the T.M.A. test. In fact an individual may have a sufficient self-esteem in one area but an insufficient level of self-esteem in other sizes. So the T.M.A test, starting from different dimensions, after identifying the subtotal indices for each scale, reaches an overall summary index of self-esteem. The latter is considered the most reliable and meaningful measure of self-esteem.

The test was standardized on a sample of 2501 young U.S. residents in 17 different places in the country. So for each new subject analysed with the administration of T.M.A. test, it obtains the individual measure of self-esteem that can be compared with data of self-esteem of adolescents of the sample.

At each of the 201 claims the test can be answered with "Absolutely True", "True", "Not true" or "Not absolutely true". The teacher will attach 4, 3, 2, 1 points to these options if the application indicates the positive possession of a quality, or it will be assigned 1, 2, 3, 4 points if the application is negative. The sum of these scores, on all the points of each scale, is the "raw score" of self-esteem.

Following the instructions provided, after taking the raw score for each scale, it is gotten, through a "*table of scores*", the definition of a standard score from 45 to 145.

Through the standard score it is reached (after taking, always with the table of scores, the standard error and the percentile ranking), the classification for the individual size and the total index.

A percentile rank of 64, for example, indicates that the level of self-esteem of the specific subject is higher than 64% of the children included in the population reference.

The classification thus obtained is called "*standardized interpretation*".

In another section, it reports both the raw scores and standard and it occurs between the different scales the "strength points" and the "*weak points*". This verification is called "*interpretation between individual*". In the last section of the T.M.A. test, it can build a chart for a visual representation more immediate.

The T.M.A. test, as well as in educational, can be used by staff trained in clinical, psychological and social research.

#### 4. SELF-ESTEEM AND SCHOOL: THE TECHNIQUE OF "*SHAPING*"

The school plays an important role in defining the self-esteem of child and adolescents. In fact they spend a considerable portion of their day in activities connected with the school, such as attending classes, doing homework, discussing the school day, planning future school work etc ...

In an educational environment can be taught to children and adolescents modes act effectively, thus positively influencing the global self-esteem. A child can learn effective ways to take action through, for example, the "*reinforcement of successive approximations toward the desired behavior*". This is the technique of "*shaping*": the actions of a person may be considered on a continuum that extends, at one extreme, from the identical behavior that is desired to the behavior antithetical to it, other extreme. The practice of shaping (also known as "*successive approximation*") is not a method for managing inappropriate behavior but it is a method that assists the educators and teachers in setting goals for the behavior of a particular student.

The shaping method stems from studies on classical conditioning of Ivan Petrovič Pavlov (1849-1936) physiologist, medical and ethologist. The literature shows that learning occurs when a significant change in environmental conditions (*stimulus*) results in a change in real of the behavior (*response*), that persists over time. This modification may result in the best possible adaptation to the environment, but may also involve the acquisition of a non-functional learning (eg. a good student who learns a grammar rule wrong).

Following the American psychologist Edward Lee Thorndike (1874 - 1949) draws on and elaborates the theory of Pavlov introducing in addition to the concept of "*reward*" those of "*punishment*". This theory is defined as *instrumental behavior* because it is enabled to obtain certain functional consequences (reward if successful), or to prevent other (punishment in case of bankruptcy). On this path, others have addressed the study of learning based on reinforcement, positive or negative, to promote a aware and internalized learning about specific behaviors. The *shaping model* falls into this category of educational strategies.

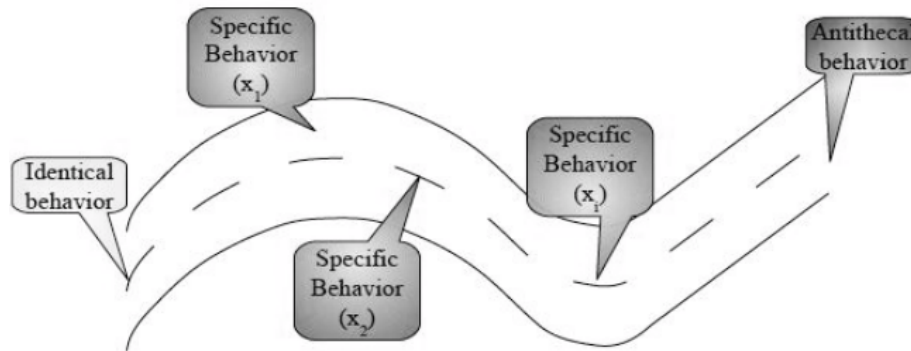
Through the *shaping method* it is possible to provide guidance and direction for student behavior change program, and to help them assess its effectiveness. It can assist you in changing an aberrant behavior or creating an appropriate behavior that is not yet in repertoire of the student.

The operators, the teachers or parent determine where in the continuum stays the specific behavior of the child. So it will be: identical behavior - specific behavior - antithetical behavior, where the specific behavior can be collocated in everyplace of the continuum.

Each behavioral event that comes close, even just a little, to the extreme of the continuum coincident with the identical behavior, compared to the point  $x_i$  where is the child, must be reinforced.

The shaping method is used when a teacher wishes that a student engages itself in a certain behavior that is desirable but infrequently or never displayed by him/her. The shaping method allows to build this desired behavior in steps, rewarding those behaviors that come progressively closer to the one you have selected as the final goal. When the student masters each substep, you require that s/he moves to the next increment in order to receive an award or reinforcement. Naturally it is important that the reinforcement is significant to the subject.

For example, if a student is in misbehaviour and a teacher has to help him/her to behave better, it is important that the change is internalised gradually. In fact a good teacher guides with a compelling strength the students to be active protagonists of their educational without to force students to behave better through authoritarianism. So the teacher realizes that if it waits that the student completes his/her change completely the times can be very long. Therefore, the teacher decides to break down the desired behavior into substeps that are progressively more demanding. As the student masters each step, the teacher offers a satisfaction and will tell him/her that he/she must now move on to the next objective to receive a new reward. If the jump between two steps is too difficult, then the teacher must break down the steps even further into smaller increments.



Figures 1. The steps of Shaping Method.

The step of shaping method can be summarized in this way:

- 1) The teacher identifies a desired behavior for a student and determines the final goal.
- 2) The teacher identify the present level of performance of the student in displaying the desired behavior.
- 3) The teacher creates a list the steps that will eventually take the student from his/her present level of performance to the final desired behavior. These levels of skill should be progressively more demanding.
- 4) The teacher tells the student that s/he must accomplish the first step to receive the reward.

Once the student has mastered a specified behavior, it requires that s/he demonstrate the next stage of behavior in order to receive a new reward.

## 5. DATA, METHOD AND RESULTS

The aim of this work is to investigate the relationship between school success and self-esteem. Past research has indicated that there is a negative relationship between school success and self-worth. Furthermore, children with low level of self-esteem are considered at risk of school failure and early school leaving.



However, self-esteem and learning are latent multi-dimension variables and then we do not believe that it is so straightforward to say that the level of school achievement is dependent by the level of self-esteem. Indeed it is true that a student who gets good grades is rewarded for his work and consequently increases his self-esteem but it is also true that a student with a high level of self-esteem is more confident and therefore gets better grades. Then, starting from this premise, we have set ourselves the objective of verifying the interdependence of the latent variables self-esteem and school achievement. The latent variable "school performance" was measured by the grades gotten in Italian, in Mathematics, in a second language (English), in Motor Activities and in Behavior. The latent variable "self-esteem" was measured through the administration of T.M.A test.

Having a towards increasing penetration of school failure and early school leaving on a national scale, we considered it appropriate to analyze data collected locally on a sample of 100 pupils attending primary schools (47% females and 53% males).

The catchment area of scholar system is the resident population in Chieti-Macro 2 area, covers 5.92 square kilometers and the population is reported to be about 8.500 inhabitants, 50% of them are under 14 years. The social fabric is extremely diverse and heterogeneous, undergoing constant change on presence of immigrants. Most families living in the territory is mononuclear, usually composed of three or four people. It is known that in this territory there is a marked individualism, isolation of families, lack of shared values and common traditions that strongly influence the educational processes of students. This often leads to initial difficulties in managing their relations, in living their everyday experiences and feel part of a community, with all its consequences.

First, we conduct a survey on the school population to identify the distribution of pupils in order to find out the residence in the territory. The difference between the total of residents and non-resident catchment area of land is only 10 percentage points since the residents are 45% and 55% non-residents.

The school performance was measured by averaging the school grades obtained in the Italian, Mathematics, foreign language (English), behavior and motor activity, after that they were standardized.

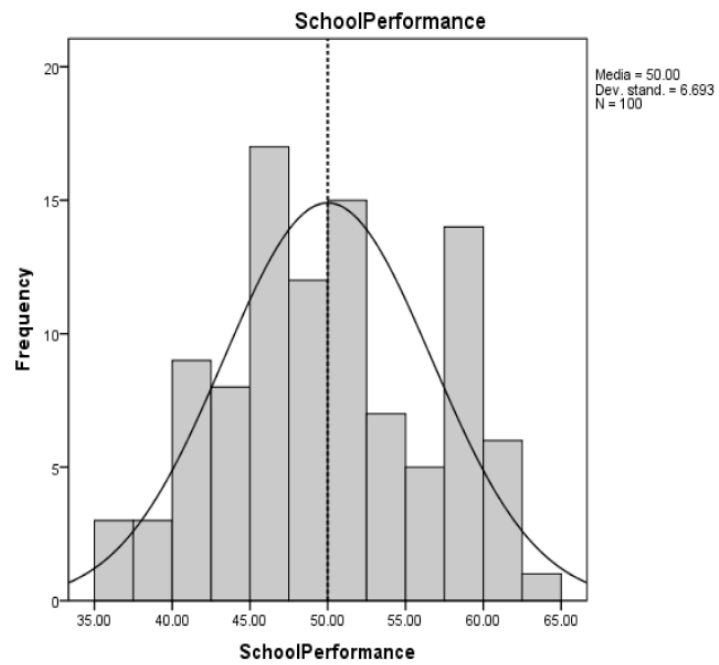
The graph shows the distribution of the evaluation obtained by students in school performance. It shows a high dispersion of the votes than the mean, this means that our sample shows a high variability.

The graph of the distribution of self-esteem has a dispersion much high than the mean, it means that the students in our sample are very heterogeneous with respect to self-esteem.

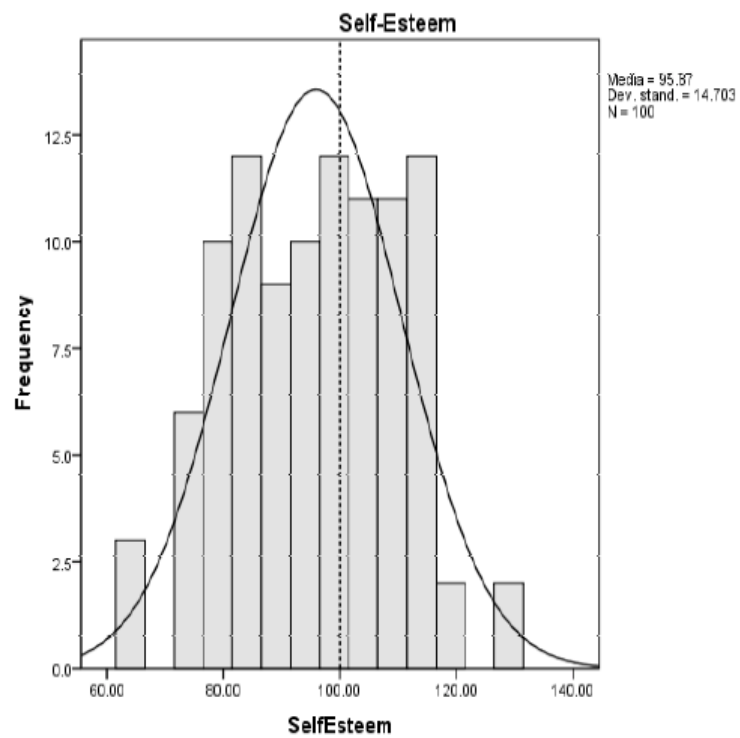
The measurement of self-esteem is characterized by two main issues:

- the self-esteem is a latent variable, is therefore not directly observable and measurable;
- the self-esteem is a complex variable and multidimensional.

For these reasons we chose to use a structural equation model with latent variables, specifically the LISREL model (Linear Structural Relationship) developed in the seventies by Swedish school of psychometry together with the eponymous software (Joreskog and Sorbom, 1984), to confirm the relationship between peer-victimization and self-esteem. It can be written through a mathematical formalization that expresses the relationship between self-esteem and school performance resulting in a structural equation.



Figures 2. Distribution of School Performance.



Figures 3. Distribution of Self-Esteem.

The structural equation modeling is one of the most popular methods in the analysis of behavioral data as they can study the interrelationships between variables are not directly measurable, these latent variables or factors have attracted the interest of the most for two reasons:

- the first is due to the need to reduce the dimensionality of the data if, in fact, the information contained in the interrelationships among many variables can be reduced to a smaller set, it becomes easier to identify an underlying structure of the data. This is the idea that characterizes, for example, factor analysis;
- the second reason is that the concept of latent variable is found in many application areas, especially in the social sciences.

The structural equation modeling approach, using the Lisrel, can address and overcome some problems such as, for example, the effects due to measurement errors (caused by difficulties inherent in the instrument used or by errors in the administration) or the measurement of a latent variable (which is a theoretical construct by its nature unobservable and unmeasurable). The Lisrel approach also allows to use specific multivariate techniques such as the path analysis, which allows us to study the causal links between variables factor analysis for the study of latent variables. The path analysis is therefore a technique for estimating the importance of links between variables and then it can use these estimates to provide information about underlying causal processes. It has become of paramount importance when Jöreskog and others incorporated it in structural equation modeling.

The path analysis can be broken down into two main parts:

- The path diagram
- The Path analysis that is to say the decomposition of the covariances (or correlations) in terms of model parameters.

The path diagram is a graphical representation of a system of simultaneous equations. It shows the relationship between all variables, including disturbances and errors.

To understand the structure is necessary to define the criteria governing such representation:

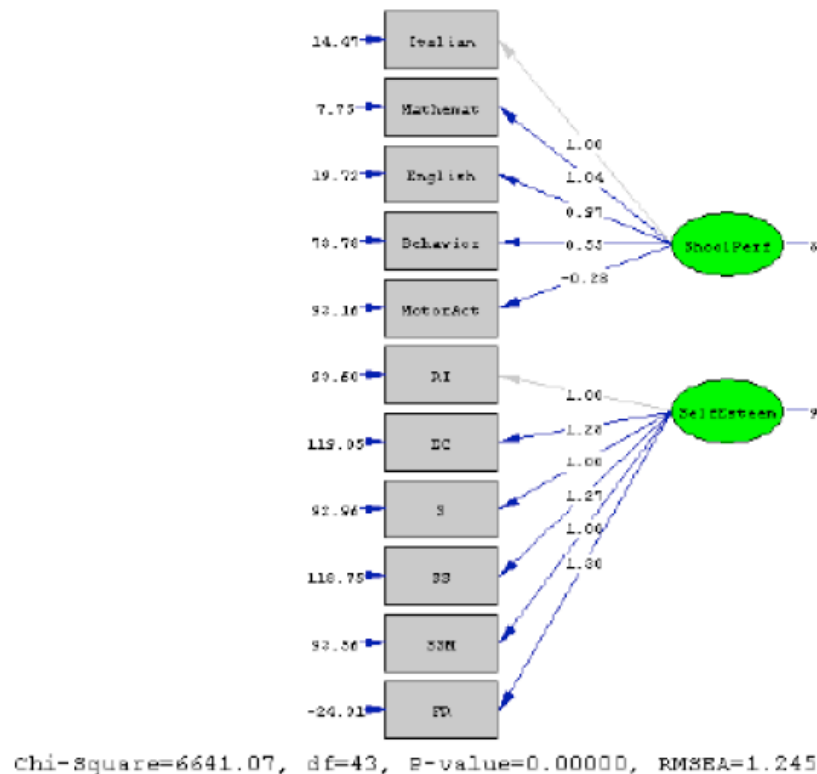
- The not observed, or latent variables, are enclosed in a circle or ellipse;
- The variables observed, however, are enclosed in a square or rectangle;
- The terms of noise or errors are represented with the relative letter but do not circled;
- A straight line in one direction represents the causal relationships between the variables involved.
- The variable that receives the arrow depends on the variable from which it starts;
- A curved line with two-way, however, shows an association between two variables that may be due to a third variable or that, even though causal, is not specified.

To understand the technique of structural equation and, in particular, the path analysis, it is necessary to introduce a further distinction between exogenous variable and endogenous variable.

A variable is called exogenous (ie, external) in relation to a model of causal links. Within these models, the exogenous variable is a latent variable (or observed) that always takes place and only function of the independent variable, or of the variable that causes an effect.

Still in the context of causal models, is called instead endogenous variable (ie internal), the variable that can play both the function of the dependent variable and of the independent variable. These variables may be the effect of some variables and simultaneously cause for the others. It is also an endogenous variable those that always plays the role of employee. In the path diagram the variables can be grouped into two classes, namely those who do not receive causal effects from other variables (exogenous) and those who receive them (endogenous).

The graphical representation of the structural system of equations, called path diagram, is represented as follows:



Figures 4. Path Diagram of correlation between self-esteem and school performance.

In order to verifying the fitness of the theoretical model to the data, it is computed the statistical test T on the hypothesis, which value is asymptotically distributed as a  $\chi^2$  and suggests that the covariance matrix of errors is equivalent to the observed sample covariance matrix of error. A large  $\chi^2$  and a great degrees of freedom means that the model fits the data well. The estimated coefficients and the strength of associations require close examination. Typically is important to examine other indicators of fit such as the RMSEA (Root Mean Square Error of Approximation) which is a measure of the magnitude of the different between

the fitted error matrix and the observed sample error matrix. This index shows a low value that means a good fitting model. This value is justified by the small sample size.

## 6. CONCLUSION

We initially have supposed a strong relationship between a low level of self-worth and low level of school performance, but the analysis cannot support our hypothesis. So we decided to modify our model focusing on self-worth level and its link with the school performance because we suppose that self-esteem and school performance are intercorrelated. Through this model we are able to confirm a strong interrelation between the latent variable of self-esteem and the latent variable of school performance, that imply that it is no always true that a very low level of self-esteem increases the probability to have a low level of school performance but in our sample it results that self-esteem and school performance are strongly correlated. So we can say that a high grade of self-esteem promotes the school learning but in the same time we can say that the school success increases the self-esteem.

The explorative analysis of the correlation between self-esteem and school performance is in contrast respect at the letterature. it is nevertheless true that the our sample is small, so it is necessary extend the same analisis to much more students to confirm our hypothesis.

Our results shows that the intercorrelations between self-esteem and school performance are very strong and let us to demonstrate the importance to pay attention on the behaviour of children attending the primary school. The prevention against the juvenile depression is necessary so that children with a lower level of self-esteem cannot easy isolate. In fact it is necessary to work on the growth of the self-esteem through educational activity of group to increase the integration among contemporary such as focus group and role playing. However, we have demonstrated that this relationship is complex and it has to be deepened with same more research.

All the tools used in our research do not require highly specialized personal and they can correctly be used by teachers to build an "image" of the phenomenon analysed. The used tools result to be correct to fit the intercorrelation between the phenomenons observed and we believe that they represent a valid tool for the decision making regarding the educational intervention, so teachers and parents should not only focus on the amount of school performance of a child, but should also be aware of how the self-esteem impacts in differently types of learning. The pupils, instead, have to know and to understand all about learning and the educators must speak them in a direct way and suitable with an appropriate language.

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