INCLUSION AND REPRODUCTION. THE ASSOCIATION BETWEEN HABITUS AND PERCEIVED MASTERY OF STRATEGIC COMPETENCES

INCLUSIONE E RIPRODUZIONE. L'ASSOCIAZIONE TRA HABITUS E PADRONANZA PERCEPITA DELLE SOFT SKILLS

Andrea Giacomantonio
Pegaso Online University,
andrea.giacomantonio@unipegaso.it

Lucia Martiniello[1]
Pegaso Online University,
lucia.martiniello@unipegaso.it

Abstract

The hypothesis informing this study was that students' habitus, via their scholastic disposition, is associated with their self-perceived mastery of strategic skills. We set out to test this hypothesis by conducting multiple correspondence analysis followed by cluster analysis on a dataset collected from a convenience sample of 1,012 first-year students attending seven upper secondary schools. Through the *Su Misura (Made to measure)* service provided by the Anicia publishing house, the subjects completed a reading comprehension test, a math test, Michele Pellerey's Learning Strategy Questionnaire, and a short student questionnaire. Five groups were identified via the statistical analyses. Examination of the properties of the different groups seems to show that the group with the poorest school disposition were disoriented but relatively capable of managing volition and anxiety. They also obtained low scores in the reading and math tests. The group with the best scholastic disposition achieved the highest scores on the two tests and scored higher in volition and tendency to attribute success to controllable causes than the mean of the validation sample. These results appear to confirm that there is a relationship between scholastic disposition and strategic skills, but one of moderate strength. This outcome can inform inclusion dispositives by prompting, for example, the activation of policies designed to engage and support families.

L'ipotesi che muove la ricerca è che l'*habitus*, attraverso la disposizione scolastica, è associato alla padronanza percepita delle competenze strategiche. Proviamo a falsificare la congettura attraverso un'analisi delle corrispondenze multiple a cui segue una cluster analysis. Il campione – di convenienza – è composto da 1012 studenti della prima classe di sette scuole secondarie di II grado. Fruendo del servizio *Su misura* erogato dalla casa editrice Anicia, i soggetti hanno compilato una prova di comprensione della lettura, una di matematica, il Questionario sulle strategie di apprendimento di Michele Pellerey e un breve questionario studente. Dalle analisi statistiche emergono cinque gruppi. L'esame delle loro proprietà sembra mostrare che il gruppo con la disposizione scolastica più bassa appare come disorientato e relativamente capace di gestire la volizione e l'ansia. Dati a cui si accompagnano punteggi bassi nelle due prove. Il gruppo con la disposizione scolastica più elevata consegue i risultati più alti nei due test e sembra che abbia una volizione e la tendenza ad attribuire il proprio successo a cause controllabili leggermente più elevate rispetto alla media del campione di validazione. La relazione tra disposizione scolastica e competenze strategiche appare, pertanto, esistente, ma d'intensità moderata. Un risultato che orienta i dispositivi di inclusione suggerendo, per esempio, l'attivazione di politiche di coinvolgimento e sostegno delle famiglie.

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[1] The layout and contents of this chapter were jointly defined by the two authors. However, Lucia Martiniello wrote up Sections 1, 2, and 3.1; while the remaining sections – 3.2 e 4 – were drafted by Andrea Giacomantonio.

Keywords: Inclusion at School, Scholastic Disposition, Strategic Competences, Multiple Correspondence Analysis, Cluster Analysis.
Parole chiave: Inclusione, Disposizione Scolastica, Competenze Strategiche, Analisi delle Corrispondenze Multiple, Cluster Analysis.

1. *Habitus* and *soft skills*

Inclusion. A keyword in the mainstream. A term that likely represents an attempt to reconcile the demands of technical rationality with those of social justice. An ordering concept. It disciplines minds, inspires norms, and informs educational dispositives. A probable expression of the pervasive form of government that according to Michel Foucault became established in the sixteenth century: la *gouvernementalité* (Foucault, 1990, 37). Like any form of power that activates processes of anthropogenesis, inclusion conceals an ambivalent meaning and generates unpredictable outcomes: of subjugation and liberation. Processes that cannot be reduced to social mobility alone. Processes related to self-awareness and to conscious and unconscious contributions to the reproduction of identifiable dispositives of power. At the explicit level - the only disclosable one - the objectives of inclusion dispositives are likely to enhance school success and socio-cultural cohesion among the individuals (who differ from numerous points of view) that populate our societies (Pavone, 2014). To achieve these goals, it seems important to improve subjects' mastery of soft skills, as clearly suggested by studies on *character skills* (Heckman, Kautz, Humphries, 2014), one of the interpretations of the concept of *soft skills*. Let us assume that this concept actually indicates a partially organic set of individual internal dispositions, which is reasonably stable and of social origin. These are the dispositions that for Pierre Bourdieu make up a habitus, that is to say, a "système acquis de schèmes générateurs, the habitus rend possible la production libre de toutes les pensées, toutes les perceptions et toutes les actions inscrites dans les limites inhérentes aux conditions particulières de sa production, et de celles-là seulement" (Bourdieu, 1980, 92). This seems to imply an image of the human being as a social animal with limited freedom. Indeed, human consciousness is rarely fully present to itself. Its categories are the product of collective and individual histories (Bordieu, 1997). Within these histories, the family likely plays a leading role. In relation to adapting to the school environment. Bourdieu (1972) hypothesizes, in fact, that this setting transmits to its children, by a sort of osmotic process, a particular scholastic disposition: the ability to experience pleasure from engaging in language games which are an end in themselves. This is an ambiguous disposition in Bourdieu's eyes in that is introduces a division between *otium* and *negotium*, between symbolic production and economic production (Bourdieu, 1997). Nevertheless, it is capable of generating a certain *ethos* towards learning. Within this disposition, the goals perceived as achievable are likely commensurate to the subject's material circumstances: "needs must" (Bourdieu, 1972)! Through the mediation of the habitus - and in particular a subject's school disposition - the family, therefore, may be expected to exert an effect on the *soft skills* that contribute to the individual students' ability to adapt to the school environment. A hypothesis that is initially and partially borne out by the OECD data (2021, 52-56) relating to *social and emotional skills* – which also plausiblhy belong to the broad family of soft skills.

2. Research design
2.1 Hyphotesis

For Michele Pellerey (2017), *soft skills* may be interpreted as strategic skills. Also viewed as stable internal dispositions (Pellerey, 2013, 55), at the psycho-pedagogical level they seem to manifest themselves through the ability of individuals to direct their own learning, or to self-determine and self-regulate it (Pellerey, 2006). Perceived mastery of soft skills may be assessed via the Learning Strategies Questionnaire (QSA) (Pellerey, 1996). Our hypothesis was that habitus, and more specifically scholastic disposition, would be associated with perceived mastery of strategic skills, as measured using the QSA.

2.2 Sample

Su Misura is a service provided by the Anicia publishing house. Two suites of instruments were administered: a diagnostic assessment battery and a summative assessment battery. The former comprised four instruments: a reading comprehension test, a math test, the QSA, and a student questionnaire. At the beginning of the 2014-2015 and 2015-2016 school years, first-year students enrolled in seven upper-secondary schools[2] benefited from the service. Our sample is represented by the 1,012 neurotypical students who completed the two tests and the QSA.

2.3 Instruments

Given that the theoretical frameworks of the reading comprehension and mathematics tests have been previously documented in the literature (Giacomantonio, Piancastelli, 2015) as has that of the QSA (Pellerey, 1996), we only offer a brief description of them here. The reading comprehension instrument comprises 38 items, the math instrument of 31. The QSA is a self-descriptive questionnaire comprising 100 items to be rated on a four-point Likert-type scale. It evaluates self-perceived mastery of 14 strategic skills: seven of a cognitive nature and seven of an affective nature. These tools were accompanied by a short student questionnaire consisting of 20 closed questions eliciting socio-personal information (age, gender, country of origin, presence of brothers or sisters), background variables (number of books at home, educational qualifications and occupational status of parents, language spoken at home) and on school experience (attendance of nursery and kindergarten, motives and factors involved in their choice of upper secondary school curriculum, number of school years failed (if any), most and least favorite school subjects).

2.4 Data analysis strategy

The variable that Bourdieu mainly uses to estimate the effect of family background on academic performance is family cultural capital, which is a function of the educational qualifications of the parents (Bourdieu, 1972). We set out to generate an indicator - termed *scholastic disposition* - which represents the synthesis of three variables: the family cultural capital, the frequency of use of the dialect at home and the number of books in the students' homes. The variables that we chose to include in our MCA were thus: an indicator that summarizes the information relating to scholastic disposition, the 12 relating to strategic competences (the reduction compared to the original set - consisting of 14 competences - will be explained later) and the two relating to the scores achieved by students in the reading and math tests, respectively. For the statistical analyses that we will present later - both the descriptive summary of the variables associated with scholastic disposition and the analysis aimed at testing our hypothesis, we used a combination of MCA and cluster analysis. The first technique synthesizes the information contained in different categorical variables into a significantly lower number of dimensions. A non-parametric technique, it is exploratory in nature; moreover, it is sensitive to the characteristics of the sample and to the distributions of the variables under study. Therefore, it does not allow any inferences to be drawn about the population: in the best case scenario, it can only offer evidence for the internal validity of the data (Amaturo, 1989; Di Franco, 2006).

However, it allows exploration of the relationships - including non-linear ones - among categories of active variables. The spatial distance between variables in the scatter plot, in fact, may be interpreted as an index of association.

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[2] The schools that availed of this service were: I.P.S.A.R. Le Streghe di Benevento; I.I.S. Don Peppino Diana in Morcone (BN); I.I.S. Fermi-Sacconi-Ceci in Ascoli Piceno; I.I.S. Galileo-Vetrone in Benevento; I.I.S. Enzo Ferrari in Rome; I.I.S. Nicola Garrone in Barletta; I.S. Vittorio Gassman in Rome

From a technical point of view, we included in the set of "explanatory" points the active categories with an absolute contribution equal or higher than the average (Di Franco, 2001, 218) and with an acceptable relative contribution (Amaturo, 1989, 50). Although the factorial coordinates are pseudo-cardinal variables (Di Franco, 2006, 49), it is common practice to examine them by means of cluster analysis (Di Franco, 2006, 90-92). We used a procedure that integrates the hierarchical method with the iterative partitioning one (Barbaranelli, 2003, 330-333; Barbaranelli, 2006, 236-240).
The former allows us to determine the number of groups in which to classify the students; the second, launched using the centroids produced by the hierarchical procedure as initial seeds, distributes the cases within the groups in a more balanced way than the first method. For this reason, we used this second grouping for all subsequent analyses. In the hierarchical procedure we determined the distance among the units in terms of the squared Euclidean distance and we grouped the units using Ward's method. In the iterative partitioning procedure, the K-means, the distance among the units is determined by means of the Euclidean distance. The stability of the solutions generated by the two methods was estimated using Cohen's Kappa concordance index. To attribute meaning to the classifications thus obtained, on the one hand, we studied the joint distribution of the variables generated by cluster analysis and those subjected to MCA, while on the other hand, we conducted an analysis of variance taking as our dependent variables the factors in the QSA and the original test results, which, as earlier stated, were cardinal measurements.

3. Results
3.1 Preliminary analyses
The reading comprehension test and the mathematics test were designed to be easy on average for students from central Italy. To check the reliability of the reading comprehension and math tests[3], we subjected them to a classical item analysis. Their difficulty index was slightly higher than expected: for the first test, the mean value was 0.57 (with a standard deviation of 0.16) and for the second, 0.55 (with a standard deviation of 0.11). The items' discriminatory power was high: for 18 questions (out of 38) in the reading comprehension test and for 27 (out of 31) in the mathematics test, it exceeded the threshold value of 0.40 (Benvenuto, 2003, 187-188). For each scale of the QSA, internal consistency - an indicator of one-dimensionality - was estimated by means of Cronbach's alpha (α). The index values were *acceptable*, i.e., over 0.65 (DeVellis, 2017, 136), for all scales but three, for which they were lower, i.e. *undesirable*: C6: difficulty concentrating ($\alpha = 0.52$), C7: tendency to ask questions ($\alpha = 0.60$), and A7: occasional emotional interference ($\alpha = 0.61$). As a result, we excluded these last three strategic competences from our subsequent analyses. The MCA, as stated, summarizes the information contained in the different categories of categorical variables. We therefore reduced the level of measurement of the QSA factors and the reading and math tests, making these variables mde ordinal by dividing them into three groups based on the tertile values. To avoid distortions, MCA generally requires at least 20 cases per active category (Di Franco, 2006, 48). With respect to the three variables summarizing scholastic disposition, there were 26 cases with

missing information. By eliminating these individuals from the sample, 986 valid cases remained. The number of active categories to be included in the analysis could not, therefore, exceed 49.

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[3] For a more in-depth presentation of the frameworks of the two tests cfr. Giacomantonio, Piancastelli, 2016.
[4] Absolute and relative contributions, mass and inertia of active categories of this MCA and the following one may be requested by e-mail from Andrea Giacomantonio (andra.giacomantonio@unipegaso.it).

The initial number of active categories was 51. We decided to summarize the variables associated with scholastic disposition via the combined use of the MCA and cluster analysis. The first two dimensions produced by the MCA explained 81% of the inertia.

By examining the strong absolute contributions, we identified the active categories that were contributing to defining the two axes and produced the relative scatter diagram (Fig. 1)[4]. In this graphic, the categories with highest absolute contributions on the first axis are represented by a circle and those with highest absolute contributions on the second axis by a square.

The three groups that we identified on the graphic plane were confirmed by the relative increments in the fusion coefficient and by the dendogram obtained via the hierarchical method of cluster analysis to which we have subjected the factorial coordinates for the two dimensions. After performing iterative partitional clustering analysis, we obtained two trichotomic variables that classified the cases. The association between them was strong: Cohen's Kappa concordance index was statistically significant and its value was 0.86. The solution is therefore likely to be stable. The first group - that represented between the first and fourth quadrants – comprised 347 students. For 57.1%, family cultural capital corresponded to the School-leaving Diploma value. The families of 35.6% of respondents regularly spoke dialect in the home; while those of 45.8% spoke little dialect. Some 50.1% reported owning between 26 and 100 books. The scholastic disposition of these students appeared to be situated in an intermediate position with respect to the other two groups (which we recategorized as *medium*).
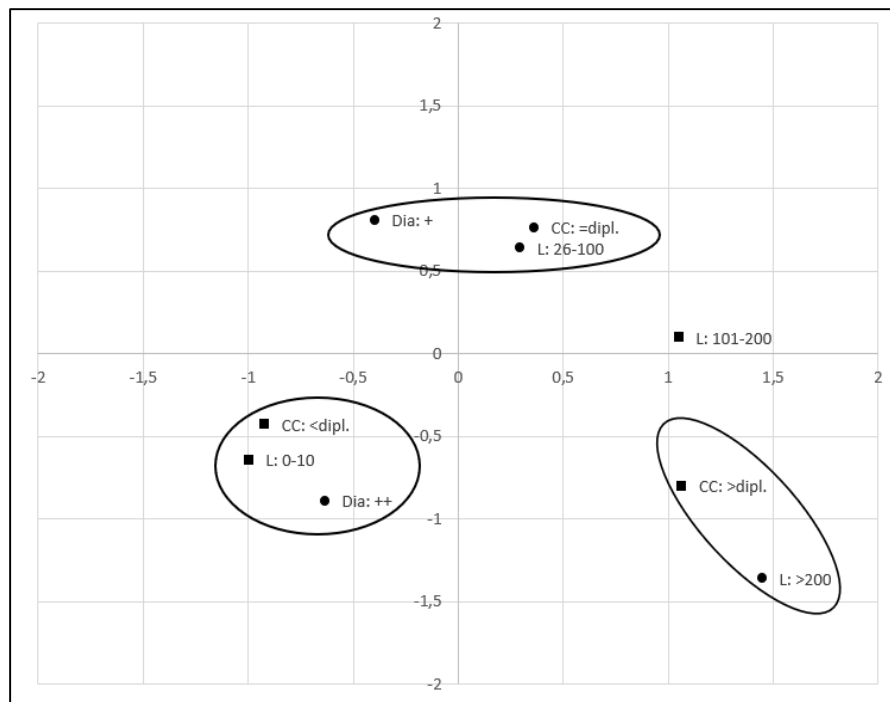
Fig. 1: Scatter diagram of the first two dimensions obtained from the MCA aimed at summing up scholastic disposition

Comprising 386 individuals, the second group is represented in the second quadrant and 72.7% of its members reported a family cultural capital of higher than school-leaving diploma level. Some 36% believed that there were over 200 books in their home. Furthermore, 77.6% of these students never spoke dialect at home or speak it very little. We hypothesize, therefore, that this group expressed the high category in the summary scholastic disposition variable.

The categories in the third quadrant represent the third and final group comprising 253 students, 74.1% of whom reported family cultural capital of lower than the school-leaving diploma level. In this group, 54.4% believed that their home contained a maximum of 10 volumes; this percentage rose to 76.9 if we add those students who reported a maximum of 25 books. This group represents the low category of the indicator we set out to produce.

3.2 The results of the combination of MCA and cluster analysis

The first two factors extracted from the second MCA explained 44.4% of the inertia; for key reasons relating to the interpretation of the data, we considered the first three factors. The percentage of inertia explained rose to 56.1%. By examining the absolute contributions with the highest absolute value, we produced the scatter plot relative to the first and second dimensions (Fig. 2) and that relative to the first and third (Fig. 3). From these two graphs, five groups appear to emerge. We carried out a cluster analysis on the factorial coordinates related to the three dimensions. Examination of the relative increment in the fusion coefficient and the dendogram produced via the hierarchical procedure suggested classifying the students into three groups. But the solution with four, and especially five, groups could not be excluded a priori. After applying the iterative partitioning procedure to the same sample, we calculated the Kappa index value for the three pairs of variables with the same number of categories. In any case, the concordance index was statistically significant; for the pair of trichotomic variables, it was 0.82, for the pair of four-category variables 0.71 and, finally, for the pair of five-category variables 0.70. All the solutions abundantly exceeded the threshold value, set at 0.60 (Barbaranelli, 2003,

327); we decided to examine the last one, which, on the one hand, seems more in keeping with the results of the MCA, and on the other, probably bears greater educational potential.
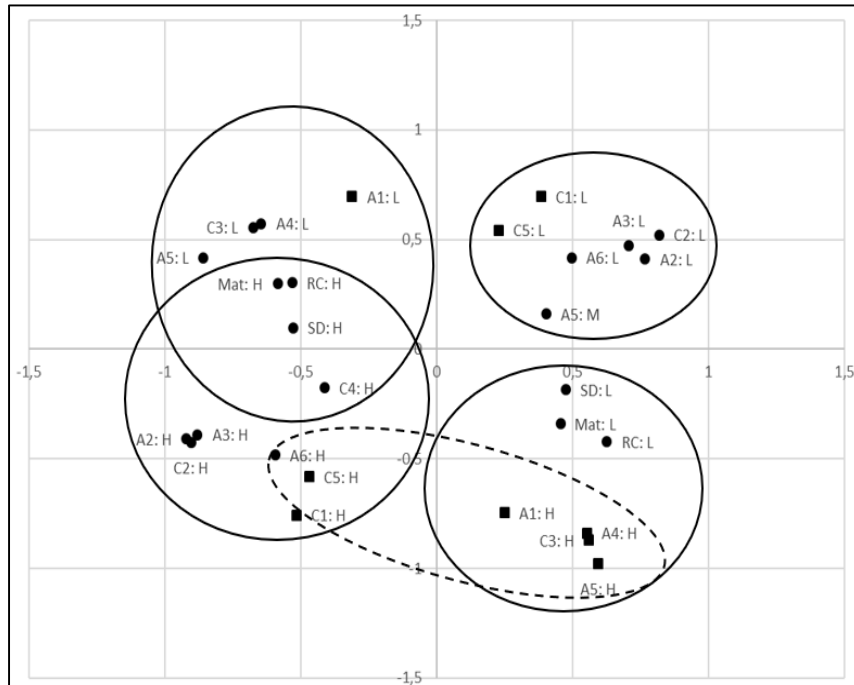

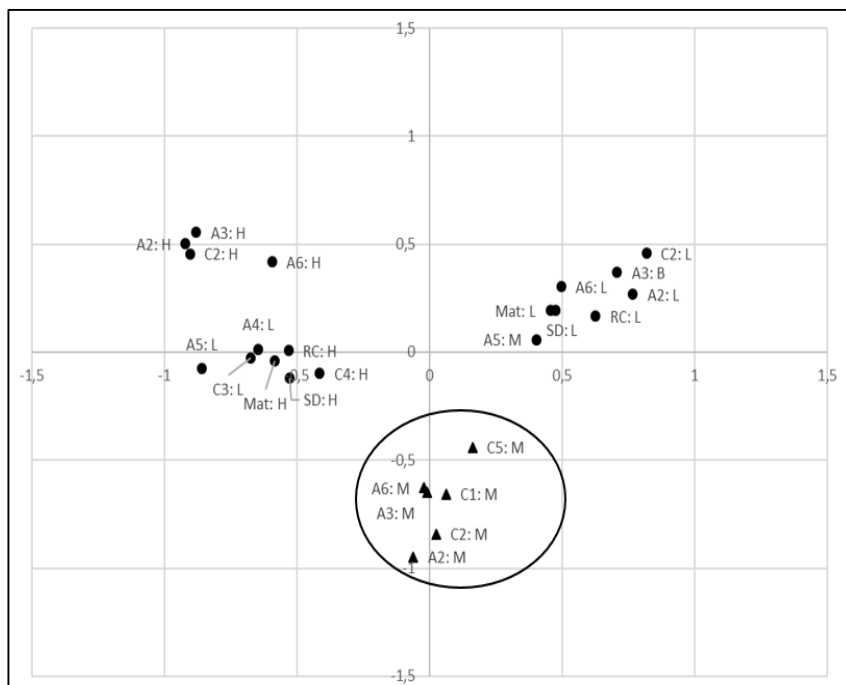Fig. 2: Scatter diagram of dimensions 1 and 2.

Fig. 1: Diagramma a dispersione delle dimensioni 1 e 3.

When the variables are cardinal, it is customary to interpret the groups obtained by means of the analysis of variance. We did not do this based on the factor coordinates of the three dimensions as dependent variables: rather, we replaced the latter with the original cardinal

variables, that is to say, the QSA factor scores and the students' scores on the two tests. In the tables that present the descriptions of the groups, in addition to the mean and the standard deviation, we have included three other indices. The first is improperly called HSD (Honest Significant Difference). It presents the difference between the mean of a group and the overall mean. When the differences between the means of two or three groups were not statistically significant, we calculated the mean deviation from the mean. The second index represents the stanine points calculated on the basis of the mean and the standard deviation of the sample (PSsam); the third again presents stanine points, in this case determined based on the mean and standard deviation of the approximately 3,770 individuals in the validation sample (PSval). We consider that the value of the stanine points is close to the mean when falls in the interval between 4 and 6; that it is slightly lower when it is less than 4 and but no lower than 3; that it is lower when it is less than 3 and no lower than 2; that it is markedly lower when it falls below 2. Similarly, we consider that the value of the stanine points is slightly above the mean when it is greater than 6 and at most equal to 7; that it is higher when it is higher than 7 and at most equal to 8; which is markedly higher when it exceeds 8. To correctly interpret the QSA values, it is important to distinguish the positively scored scales from the negatively scored ones. The same value takes on opposite meanings if it refers, for example, to the A2 factor: volition versus the A5 factor: lack of perseverance. In our analysis, we take due account of the results of the MCA, but we interpret the perceived mastery of strategic skills of the five groups in relation to the values of the validation sample.

In the first group (Table 1), 52.7% of the students displayed a poor scholastic disposition. Self-perceived mastery of strategic skills appeared to be lower or decidedly lower than the mean of the validation sample in at least five cases: three strategic competences of a cognitive nature and two of an affective nature. The results achieved in the tests were close to means of the sample, as was also the case for the next group. It seems reasonable to assume that this group is likely made up of students whose volition, self-regulatory capacity, and propensity to attribute their success to controllable causes were decidedly below average.

Tests and QSA factors	Mean	Dev. Std.	HSD	PSsam	PSval
C1: processing strategies*	19,0	3,8	-4,4	3,2	2,8
C2: self-regulation*	23,3	3,5	-5,6	2,8	1,4
C5: use of semantic organizers*	12,7	2,8	-2,0	3,8	2,8
A2: volition*	19,6	3,1	-4,9	2,8	1,5
A3: attribution to controllable causes*	16,6	3,0	-3,5	3,1	1,7
A5: lack of perseverance*	10,1	2,1	0,4	5,3	5,8
A6: self-perceived competence*	12,4	2,7	-2,4	3,5	3,5
C3: sense of disorientation	18,1	3,4	0,4	5,2	6,0
C4: openness to cooperation	17,7	3,3	-1,4	4,2	4,1
A1: baseline anxiety	22,7	6,1	-1,2	4,6	4,3
A4: attribution to uncontrollable causes	16,7	3,3	-0,2	4,9	5,4
Reading comprehension	19,3	5,5	≈-1,7	4,5	/
Maths	15,1	5,5	≈-1,6	4,5	/

*See the first quadrant of Fig. 1.

Tab. 1: descriptive of group 1 (N = 226).

The second group (Table 2) contained 48% of students with a poor scholastic disposition. The highest absolute contributions of this group were on the third dimension. Indeed, if we consider the PSsam values for the first six strategic skills, they are all close to the mean. However, the

differences with respect to the validation sample are of some importance. More specifically, it seems that these students experienced a greater sense of disorientation. Furthermore, undesirable values were recorded in five other cases: A4: attribution to uncontrollable causes, A5: lack of perseverance, A2: volition, A3: attribution to controllable causes, C2: self-regulation. We hypothesize that, despite their close-to-average test results, the students in this group were likely to be more disoriented and less strong-willed than the mean (of the validation sample).

Tests and QSA factors	Mean	Dev. Std.	HSD	PS$_{sam}$	PS$_{val}$
C1: processing strategies*	23,7	3,1	0,4	5,2	4,7
C2: self-regulation*	28,4	3,4	≈-0,2	4,8	3,6
C5: use of semantic organizers*	15,0	2,9	0,2	5,1	4,0
A2: volition*	23,5	2,9	-1,0	4,6	3,5
A3: attribution to controllable causes*	19,5	2,4	-0,6	4,7	3,5
A6: self-perceived competence*	14,5	2,4	≈-0,1	4,9	5,0
C3: sense of disorientation	20,5	3,1	2,8	6,4	7,3
C4: openness to cooperation	19,0	3,4	≈0,1	4,9	4,7
A1: baseline anxiety	26,7	5,0	2,8	5,9	5,6
A4: attribution to uncontrollable causes	19,5	2,7	2,6	6,3	6,9
A5: lack of perseverance	11,3	2,1	1,6	6,2	6,9
Reading comprehension	18,9	5,2	≈-1,7	4,3	/
Maths	14,6	5,0	≈-1,6	4,4	/

* See the second and third quadrant of Fig. 2

Tab. 2: descriptive of group 2 (N = 225).

Tests and QSA factors	Mean	Dev. Std.	HSD	PS$_{sam}$	PS$_{val}$
C3: sense of disorientation*	22,0	3,7	4,4	7,1	8,2
A1: baseline anxiety*	30,1	4,8	6,2	7,0	6,7
A4: attribution to uncontrollable causes*	21,2	3,5	4,2	7,2	7,9
A5: lack of perseverance*	12,4	2,8	2,7	7,0	7,8
Reading comprehension*	17,8	5,1	-3,1	3,9	/
Maths*	13,0	5,5	-3,5	3,8	/
C1: processing strategies	27,8	3,7	4,5	6,8	6,4
C2: self-regulation	31,5	4,4	2,6	6,0	4,9
C4: openness to cooperation	19,8	3,2	≈0,8	5,4	5,1
C5: use of semantic organizers	16,8	3,1	≈1,7	6,2	5,0
A2: volition	27,0	3,6	2,5	6,1	5,2
A3: attribution to controllable causes	21,6	3,3	1,5	5,8	4,8
A6: self-perceived competence	16,4	3,4	≈1,8	6,0	6,3

* See the second quadrant of Fig. 1

Tab. 3: descriptive of group 3 (N = 120).

The scholastic disposition indicator was low in value for 64.2% of the third group of students. Their mean test scores were generally lower than those achieved by the other students. Despite reporting mastery of processing strategies and self-perceived competence that was slightly

greater than the mean of the validation sample, students appeared to display a markedly stronger sense of disorientation (than the validation cohort), a markedly greater tendency to attribute their own success and own failure to uncontrollable causes, a greater lack of perseverance and, finally, slightly higher baseline anxiety. On the basis of these values, we may speculate that these students display a poor scholastic disposition, and likely feel bewildered, unmotivated, and slightly anxious.

Tests and QSA factors	Mean	Dev. Std.	HSD	PS_{sam}	PS_{val}
C1: processing strategies*	26,6	4,8	3,2	6,3	5,9
C2: self-regulation*	34,1	3,9	5,2	7,0	6,0
C4: openness to cooperation*	20,0	4,1	≈0,8	5,5	5,2
C5: use of semantic organizers*	16,1	3,9	≈1,7	5,8	4,7
A2: volition*	29,2	3,0	4,7	7,1	6,3
A3: attribution to controllable causes*	23,4	2,8	3,4	6,8	5,9
A6: self-perceived competence*	16,8	3,0	≈1,8	6,3	6,5
Reading comprehension	24,0	4,2	≈2,8	6,2	/
Maths	19,7	6,0	≈2,8	6,1	/
C3: sense of disorientation	14,5	2,8	≈-3,0	3,5	4,0
A1: baseline anxiety	21,8	6,3	≈-2,7	4,3	4,0
A4: attribution to uncontrollable causes	14,5	2,9	≈-2,5	3,7	4,1
A5: lack of perseverance	7,7	1,7	≈-1,8	3,5	3,8

*See the third and fourth quadrant of Fig. 1.

Tab. 4: descriptive of group 4 (N = 202).

In the fourth group (Table 4), 44.6% of students displayed a strong scholastic disposition. Their scores on both tests were slightly above the mean attained by the overall sample. Examination of their stanine points vis-à-vis the validation sample suggests that this group is readily interpretable: it is likely made up of students with slightly above average volition (PSval A2 = 6.3 and PSval A5 = 3.8) and tendency to attribute success and failure to controllable causes.

In Table 5, we describe the characteristics of the last group, the fifth. Although in the two scatter diagrams (Fig. 1 and Fig. 2), the high scholastic disposition category appears to describe this group of students, in reality 47.4% of them have a medium disposition and only 30% a high disposition. The same may be observed in relation to the results obtained in the two tests: although a high percentage of these students obtained high scores (respectively 48.8% in the reading comprehension test and 50.2% in the mathematics test), the overall scores for this group were close to the mean values for the sample.

The HSD data suggests that the fifth group's perceived mastery of various strategic competences is close to that reported by the previous group (the fourth). However, a differential outcome of the fifth group was its slightly higher than average ability (vis-à-vis the validation sample) to manage anxiety and slightly lower scores for self-regulation and use of semantic organizers.

Tests and QSA factors	Mean	Dev. Std.	HSD	PS_{sam}	PS_{val}
C3: sense of disorientation*	14,6	2,3	≈-3,0	3,6	4,0
C4: openness to cooperation*	19,6	3,6	≈0,1	5,2	5,0
A1: baseline anxiety*	20,6	4,6	≈-2,7	4,0	3,6
A4: attribution to uncontrollable causes*	14,3	2,5	≈-2,5	3,7	4,1
A5: lack of perseverance*	8,1	1,7	≈-1,8	3,8	4,2

Reading comprehension*	23,2	4,5	≈2,8	5,9	/
Maths*	18,9	5,3	≈2,8	5,8	/
C1: processing strategies	22,0	3,7	-1,4	4,5	4,0
C2: self-regulation	28,9	3,1	≈-0,2	5,0	3,8
C5: use of semantic organizers	14,2	3,3	-0,6	4,7	3,6
A2: volition	24,8	2,6	0,3	5,1	4,1
A3: attribution to controllable causes	20,3	2,5	0,2	5,1	4,0
A6: self-perceived competence	14,7	2,3	≈-0,1	5,0	5,1

* See the fourth quadrant of Fig. 1.

Tab. 5: descriptive of group 5 (N = 213).

4. Hypotheses and future research prospects

Let us summarize the outcomes of the combination of MCA and cluster analysis:

1. the first group contained 52.7% of individuals with a poor scholastic disposition; scores on the two tests were average; volition, ability to self-regulate and attribution of success to controllable causes were markedly lower than the means in the validation sample.

2. in the second group, 48% of the respondents displayed a poor scholastic disposition; test scores were similar to those of the previous group, i.e., close to the sample means; they displayed a greater than the average sense of disorientation and lower than average volition;

3. 64.2% of the subjects in the third group displayed a poor scholastic disposition; test results are slightly lower than the mean; sense of disorientation was markedly greater than the mean of the validation sample, while volition and ability to manage anxiety were slightly lower.

4. the students in the fourth group displayed a strong scholastic disposition in 44.6% of cases; test scores were slightly higher than the means in our sample, while volition and the tendency to attribute success to controllable causes were superior to the mean levels recorded in the validation sample;

5. 47.4% of the members of the fifth group, the last, displayed a medium scholastic disposition; test results coincided with the sample means; ability to manage anxiety was slightly higher than average, while self-regulation and use of semantic organizers were poorer than average.

The first speculative conclusion that we may draw from these data is that the association between scholastic disposition - or, rather, between the indicator we produced - and perceived mastery of strategic competences is of at least moderate strength. Questions also arise: it is difficult to explain why the first group – who displayed far lower than average mastery of three strategic competences, lower than average mastery of two others, and slightly lower than average mastery of another – nevertheless obtained test results that were in the average. This may be an example of the non-linear relationships which, as we had hypothesized (Giacomantonio, 2020), can link perceived mastery of strategic competences with learning outcomes. To date, this relationship has been studied at the formal level, but meaningful interpretative hypotheses about it are currently lacking. The characteristics of our sample - which, we recall, was a convenience sample - and of the analyses we carried out – notably, the MCA is sensitive to the properties of the sample and does not allow inferences to be made about the population from which the sample was drawn – mean that these results may viewed as only internally valid. The formulation of hypotheses to answer these questions therefore requires a larger sample, constructed according to more rigorous criteria and with such a number of cases as to allow more refined analyses.

The results of this study, however, can already guide educational dispositives aimed at developing strategic competences - a desirable and intimidating form of character education.

The association between such resources and scholastic disposition lends support to the idea, which is evidence-based, of proposing initiatives for the involvement and support of parents (Mitchel, 2014). The probability of increasing the mastery of strategic competences and, therefore, the inclusive capacity of the school is, in fact, probably higher when the school environment cooperates with the family and with that of extra-curricular educational services. In the second place, the identification of groups of students on the basis of their scholastic disposition, self-perceived mastery of strategic competences, and test results could help to individualize educational dispositives, especially if supported by effective assessment of independent entry variables (Bonazza, 2021). In implementing such strategies, their ambiguity should not be underestimated. Every educational act, even the most loving, likely entails a *violence symbolique* (Bourdieu, 1970). It is very difficult to determine the conditions under which such an act represents a technique of domination or of self (Foucault, 1988), or under what condition it promotes processes of subjugation versus liberation. Nonetheless, soft skills could potentially represent one of operative means, together with competence-based teaching, through which biopolitical governance dispositives exert their hold on educational processes (Giacomantonio, 2022).

References

Amaturo, E. (1989). Analyse des donnés e analisi dei dati nelle scienze sociali. Torino: Centro Scientifico Editore.

Barbaranelli, C. (2003). Analisi dei dati. Tecniche multivariate per la ricerca psicologia e sociale. Milano: LED.

Barbaranelli, C. (2006). Analisi dei dati con SPSS. II. Le analisi multivariate. Milano: LED.

Bonazza V. (2021). Individualizzazione e scuola. Il modello di apprendimento, la strategia didattica, la ricerca empirica. Milano: Franco Angeli

Bourdieu, P., Passeron, J. C. (1970). La reproduction. Éléments pour une théorie du système d'enseignement. Paris: Les Éditions De Minuit.

Bourdieu, P. (1972). La trasmissione dell'eredità culturale. In M. Barbagli (Ed.), Istruzione, legittimazione e conflitto (pp. 284-313). Bologna: il Mulino.

Bourdieu P. (1980). Le sens pratique. Paris: Les Éditions de Minuit.

Bourdieu, P., (1997). Méditations pascaliennes. Paris: Éditions du Seuil.

DeVellis, R. F. (2017). Scale Development. Theory and applications (4th ed.). Los Angeles (CA): Sage.

Di Franco, G. (2001). EDS: Esplorare, descrivere e sintetizzare i dati. Guida pratica all'analisi dei dati nella ricerca sociale. Milano: FrancoAngeli   .

Di Franco, G. (2006). Corrispondenze multiple e altre tecniche multivariate per variabili categoriali. Milano: FrancoAngeli.

Heckman J.J., Kautz T., Humphries J.E. (2014). The Myth of Achievement Tests: The GED and the Role of Character in American life. Chicago: The University of Chicago Press.

Foucault, M. (1988). Technologies of the Self. In L. H. Martin, H. Gutman, P. H. Hutton (Eds.), Technologies of the Self: A Seminar with Michel Foucault (pp. 16-49). Anherst: University of Massachusetts Press.

Foucault, M. (1990). Qu'est-ce que la critique? Critique et Aufklärung, Bullettin de la Société Française de Philosophie, 84(2), 35-63.

Giacomantonio, A. (2020). Competenze strategiche e learning outcomes. In M. Pellerey, M. Margottini, E. Ottone (Eds.), Dirigere se stessi nello studio e nel lavoro. Competenzestrategiche.it. Strumenti e applicazioni (pp. 163-172). Roma: Roma TrePress.

Giacomantonio, A. (2022). On the process of legitimizing the concept of competence. Genealogical hypotheses. In V. Bonazza, Assessment, evaluation, and school. Ideology, common sense, and research culture (pp. 59-79). Paris: L'Harmattan.

Giacomantonio, A., Piancastelli, L. (2015). Su misura. Un servizio per valutare, progettare, migliorare, Q-Times, VII(3), 112-127.

Mitchell, D. (2014). What Really Works in Special and Inclusive. Education Using evidence-based teaching strategies (2nd ed.). London, New York: Routledge.

OECD, (2021). Beyond Academic Learning: First Results from the Survey of Social and Emotional Skills. Paris: OECD.

Pavone, M. (2014). L'inclusione educativa. Indicazioni pedagogiche per la disabilità. Milano: Mondadori.

Pellerey, M. (1996). Questionario sulle strategie di apprendimento (QSA). Roma: LAS.

Pellerey, M. (2006). Dirigere il proprio apprendimento. Autodeterminazione e autoregolazione nei processi di apprendimento. Brescia: La Scuola.

Pellerey, M. (2017). Soft skill e orientamento professionale. Roma: CnoS-FAP.

Pellerey, M., Grządziel, D. (2013). Il quadro di riferimento teorico e gli strumenti valutativi ed auto-valutativi valorizzati e un approfondimento del concetto di competenza strategica come abiti o disposizioni operative stabili della persona. In M. Pellerey, D. Grządziel, M. Margottini, E. Epifani, E. Ottone, Imparare a dirigere se stessi. Progettazione e realizzazione di una guida e di uno strumento informatico per favorire l'autovalutazione e lo sviluppo delle proprie competenze strategiche nello studio e nel lavoro (pp. 9-53). Roma: CnoS-FAP.