

Cognitive Aptitude and Motivational Commitment in the Educational Success of Students with and without Learning Difficulties

Aptitud cognitiva y compromiso motivacional en el éxito educativo de estudiantes con y sin dificultades de aprendizaje

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Received on 08-20-18 Reviewed on 09-12-18 Approved on 11-21-18 Online on 02-19-19

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Cite as:

Oliveira Pereira, F. (2019). Cognitive Aptitude and Motivational Commitment in the Educational Success of Students with and without Learning Difficulties. *Propósitos y Representaciones*, 7(2), 11-44. doi: <http://dx.doi.org/10.20511/pyr2019.v7n2.292>

Summary

The structure of mental activity and the consequent development of its components functionally affect the quality of the students' performance. The aim of this research was to know the difference between some structural details of the psychological levels of the functionality of the students with and without learning difficulties. It is a predominantly quantitative and experimental study with independent variables such as age, school year, school retentions, cognitive aptitude and motivation to learn, and with dependent variables such as performance or school success. The sample of this research consisted of 550 students: 275 with and 275 without learning difficulties. The methodological instruments used were psychological interviews, sociodemographic questionnaires, record of the students' performance in the three periods of the last two school years and evaluation by teachers and parents of the students' abilities to learn and motivation to study. The results show that the components of the learning activity - cognitive aptitude, motivational commitment and educational success - present important differences within the framework of intercorrelations between components in the students with learning difficulties in comparison to the students without learning difficulties. In the first case, the consistency of the links between the various studied components is lower. The discussion of the data shows and concludes that the less strong connection between the components of academic performance, aptitude for learning and motivation to study, leads to a greater dispersion of the levels of psychic functioning of students with learning difficulties.

Keywords: Cognitive Aptitude; Motivation; Learning Difficulties.

Resumen

La estructura de la actividad mental y el consiguiente desarrollo de sus componentes funcionalmente afectan la calidad del desempeño de los estudiantes. Esta investigación tuvo como objetivo conocer la diferencia entre algunos detalles estructurales de los niveles psicológicos de la funcionalidad de los alumnos con y sin dificultades de aprendizaje. Investigación de predominancia cuantitativa y de tipología experimental, teniendo por variables independientes la edad, el año escolar, las retenciones escolares, la aptitud cognitiva y la motivación para aprender y por variables dependientes el rendimiento o éxito escolar. La muestra de esta investigación consistió en un contingente de 550 estudiantes: 275 con y 275 sin dificultades de aprendizaje. Los instrumentos metodológicos usados fueron la entrevista psicológica, cuestionarios sociodemográficos, de registro del desempeño de los estudiantes en los tres períodos de los dos últimos años escolares y de evaluación de los maestros y de los padres sobre las habilidades de los alumnos para aprender y la motivación para estudiar. Los resultados muestran que los componentes de la actividad de aprendizaje – aptitud cognitiva, compromiso motivacional y éxito educativo – presentan diferencias importantes en el cuadro de intercorrelaciones entre componentes en los alumnos con dificultades de aprendizaje, siendo menor en estos la consistencia de los vínculos entre los diversos componentes estudiados comparado al cuadro presentado en los alumnos sin dificultades de aprendizaje. La discusión demuestra y concluye que la conexión menos fuerte entre los componentes, el rendimiento académico y la aptitud para el aprendizaje y la motivación para estudiar, conduce a la mayor dispersión de los niveles de funcionamiento psíquico de los alumnos con dificultades de aprendizaje.

Palabras clave: Aptitud cognitiva; Motivación; Dificultades de aprendizaje.

Introduction

The student as subject of the learning activity is a system which psychological structure exhibits a degree of development of its components, which can guarantee school success when the admission is positive, or not, experiencing learning difficulties; the structure of the psychological

system comprises four sub-structures: emotional, cognitive, motivational, and volitional (Pereira, 2008, 2014, 2018).

This study will focus on the psychological level and the structural aspects of cognitive and motivational development in the psychoeducational and psychopedagogical spheres in order to understand which factors and components are covered and which factors and components interfere with academic performance. The objective is to know the characteristics of students with learning difficulties, differentiating them from those who do not really present difficulties.

Structural factors of school activity in school success or failure

There have always been learning difficulties, but the problems of school success and failure arise mainly from the extension of access to primary education to the entire population of compulsory pre-school starting age (Benavente, 1990).

Therefore, the historical reality of the institution to which the student belongs cannot be ignored when making judgments about school success or failure. This is due to the fact that there are specific differences between what is understood by academic performance and educational success. The same grade given to the student by different institutions does not correspond to the same skills, and equal competencies are evaluated differently from institution to institution. An average student can do extremely well in a mediocre class and perform poorly in an intense class. A school can only evaluate what it teaches; a student's actual knowledge and skills cannot be confused with the academic excellence being evaluated (Perrenoud, 2003). Studies have revealed that the causes of school failure are not the same for parents, students, teachers, or the educational system. There is still much confusion between myths and realities. Since contradictions are inherent to the social reality, it is probably essential to take into account the historical, social, political and cultural context in which the student or school is inserted (Roazzi & Leander, 1988; Nogueira, 1991, 1995; Almeida, Miranda & Guisande, 2008; Forgiarini & Silva, 2008; Lira, 2008).

It is also known that the individual differences of students, especially in terms of their learning abilities and motivations to study, can be understood in some cases as the richness and diversity in the way objectives are met, in the factors that hinder and impede the process leading to academic success, without forgetting to mention educational success (Guerra, Candeias & Prieto, 2014; Lemos, Casanova & Almeida, 2015; Pinheiro, 2016).

No consensus has been found in the literature on learning difficulties. Perhaps due to the fact that they can be both a cause and a consequence of school failure. Learning difficulties have multifactorial causes (Fonseca, 2004; Correia & Martins, 2005; Coggi & Richiardi, 2013), and the factors may be different in different students. They may also have different effects on students' attitudes and behavior according to the individual personality characteristics (Araújo, Lima & D'Ottaviano, 2013; Alves, 2015; Pässler, Beinicke & Hell, 2015).

Therefore, learning difficulties need to be addressed in the context of a chain of causes and consequences of the social problems of school age. Poor academic performance can trigger feelings of low self-esteem, as well as negatively influence the student's future productivity, the acceptance by his peers and family members, other activities related to the child's development process, and other subsequent steps (Mazer, Bello & Bazon, 2009; Sá, 2017).

School success promotes balanced social-emotional development (Elias, 2003; Vianin, 2013). In this sense, problems related to student learning can be a risk factor and trigger negative behaviors in children (Sapienzal & Pedromônio, 2005; Piletti & Rossato, 2011; Araújo, Lima & D'Ottaviano, 2013).

Learning and behavioral difficulties can simultaneously increase the likelihood of problems arising in social and school contexts, and interfere negatively with students'

interpersonal relationships, their social adaptation and also their self-concept (Bianchi, 2005; Sá, 2017).

Most research studies indicate that learning difficulties are risk factors for psychosocial problems: low self-esteem, deficient social skills, including problems of antisocial behavior and social maladjustment (Mazer, Bello & Bazon, 2009; Fernandes, 2010; Sá, 2017).

Many of these factors are the components of the student's psychic structure, each with its own specificities. Therefore, reference can be made to the structural aspects related to the emotional, cognitive, motivational, and volitional spheres (Pereira, 2008, 2014, 2018). The most common psychological factors in the determination of learning problems are cognitive and motivational (Pissaro, 2012; Barbosa, 2015; Gonçalves, Barreiros, Barreiros & Correia, 2017).

Hence the conclusion that the academic performance of students characterized by school failure does not originate only from disturbances and internal conditions that generate individual learning difficulties. School and educational failure can occur in students with normal development of their internal conditions responsible for learning, being a consequence of factors, although individual, more centered in the subject's interaction with the diverse contexts of the surrounding world.

Influence of the components: aptitude to learn and dedication to study, on student academic performance

Academic performance in the condition of the school and educational success and failure can be affected by factors of the most varied nature and size as they interfere with students' psychological functioning when interacting and relating with the world.

There are students whose school failure is related to problems of learning difficulties, which arise from the particularities of their cognitive aptitudes or emotional experiences in their family or with their peers. But there are also students whose school failure depends exclusively on their dedication to study and the lack of motivation for school tasks since in other tasks, e.g. play-based, they exhibit high performance (Coggi & Richiardi, 2013; Veríssimo, 2013; Pereira, 2015).

Therefore, the learning outcomes and, consequently, the real academic performance of the student can be explained by different explicit theories. Some authors resort to intelligence and the cognitive processes involved (Piaget, 1978; Sternberg, 1988; Piletti & Rossato, 2011); others, to personality and its components, mainly emotional and affective, with the participation of self-esteem (Kelly, 1995; Norenzayan, Choi & Nisbett, 1999; Sá, 2017); others consider that the problem lies in social beliefs and stereotypes (Rodrigo, Rodríguez & Marrero, 1993; Lourenço, 2010); others, with theoretical and practical legitimacy, emphasize the role of motivation (Huertas & Agudo, 2003; Souza, 2010; Vianin, 2013; Gabriel & Oliveira, 2014), as well as those who understand that the cause of the problem focuses on the process of socialization, education, and learning (Kember, 1997; Pozo et al, 1999; Máiquez et al, 2000; Pérez Echevarría et al, 2001; Coggi & Richiardi, 2013; Sá, 2017).

Brophy (1988) characterizes motivation to learn as a student tendency to assign meaning and value to academic activities. Apparently, the objectives, needs, and beliefs of students are aspects that are directly or indirectly involved in the motivation to learn, and that will address such objectivity that gives importance, meaning, value (Carraça, 2017; Sá, 2017; Tabile & Jacometo, 2017).

The causes attributed to student success or failure have implications for motivation approach since it gives a changes to one or another dimension (Weiner, 1986, 1994; Nogaro, Ecco & Rigo, 2014).

Motivation is an internal psychological factor or process that drives and directs action by integrating the subject's behavior (Murray, 1986; Garrido, 1990; Piletti & Rossato, 2011; Leal & Nogueira, 2012).

Given that motivation is a process, rather than a product, circumstantially there is also no access to direct observation; therefore, it can only be deduced from the observation and analysis of behavior, thus making sense to cover other elements (Pittrinch & Schunk, 2002; Siqueira & Wechsler, 2006; Lourenço & Paiva, 2010; Gabriel & Kataoka, 2012). Therefore, in the reports of motivation to learn, several characteristics of school activities need to be taken into account, such as task performance which success depends to a certain extent on the cognitive processes involved: attention, memory, information processing, reasoning, problem-solving (Bzuneck, 2002; Siqueira & Wechsler, 2006; Miotto, 2012; Mascarello, 2013; Dutra, Ghedin, Ghedin & Nicot, 2017). Even more specific is the evidence of the action of the cognitive processes in learning difficulties in the field of reading and mathematics (Dyson, Jordan & Glutting, 2011; Willcitt, Petrill, Wu, Boada, Detries, Olson & Pennington, 2013; Carsol & Dornelegi, 2015).

The relationship between motivation and learning is reciprocal, where motivation has an effect on learning and learning also interferes with motivation (Schunck, 1991, 1996; Fontaine, 2005; Rosario, 2005; Ventzel & Wigfield, 2009; Lourenço & Paiva, 2010; Gabriel & Oliveira, 2014).

Motivation is a process in action that is characterized by components inherent to the student's individuality: the intensity that reflects the degree of activation, the direction of attention and the effort focused on what is relevant for the achievement of the objective and the persistence that allows keeping the action in the required time (Lemos, 2005; Veríssimo, 2013).

However, the access of motivation to observation is made possible by using inferences resulting from the analysis and interpretation of student behavior. Aspects of motivation are very often taken for general aspects of learning disabilities (Boruchovitch, 2009; Artero, 2012; Araújo, Lima & D'Ottaviano, 2013). Confusion is more likely to occur because there is not a univocal and universal theory of motivation, but several theories of the sphere of particularities (Lourenço & Paiva, 2010; Costa, Silva & Abbas, 2017). Therefore, student motivation for school learning needs to be designed at the intersection of the integration of a set of motivational cognitions. On the one hand, motivation integrates students' expectations in the form of beliefs and anticipations related to the possibility of achieving the desired outcomes and, on the other hand, the value that activities, objectives, and outcomes acquire by themselves (Elliot & Dweck, 2005; Dweck, 2012). It is observed in motivation in learning difficulties that the student often reveals negative expectations and values of his performance; hence having the perception of low academic competence, which in turn leads to the anticipation of the likelihood of failure, thus adopting a strategy of task avoidance and insufficient commitment (Guay, Marsh & Boivin, 2003; Gabriel & Oliveira, 2014).

Co-substantially, motivation to learn is reflected in the different levels of mental functionality: of needs (in the form of the need for competence), of objectives (where performance can be directed by approach or avoidance strategies, of attributions and locus of control (represented as success or failure), of Self (as expectations and self-efficacy), of performance (as motivated or poorly performance behavior), of consequences (are manifested by encouraging or discouraging feelings) (Efklides & Sideridis, 2009; Souza, 2010; Barbosa, 2015).

As a result of the differences resulting from the interpretation of motivation in a reductionist plan, the self-determination theory arises and conceives motivation in an uninterrupted *continuum*, placing amotivation or de-motivation on the left side of a line segment, extrinsic motivation in the central part, with four sequential modes according to the degree of implication towards internalization: external, introjected, identified, and integrated; and finally, intrinsic motivation on the right side of the line segment, which is mainly characterized by the

high degree of autonomy and the competence of the subject motivated to perform the action with pleasure and satisfaction (Ryan & Deci, 2000; Deci & Ryan, 2002; Niemiec, Ryan & Deci, 2009).

Based on the reflection on and understanding of the above, it was decided to conduct a research on students referenced by the school as having learning difficulties, and how two of the probable causes of school failure: cognitive aptitude to learn and motivation to study, influence in student academic performance.

The objective of the research leads to raise some research orientation questions:

1. Do the factors related to cognitive aptitude to learn, motivation and dedication to study interfere equally with the academic performance of students with and without learning difficulties?

2. Does the "psychological learning structure" dimension as a factor with a significant influence on academic performance has the same inter-correlational configuration of the constituent elements in students with and without learning difficulties?

Method

Participants

The sample of this research consisted of a group of 550 students: 275 of both sexes, with more men than women referenced by their schools for having learning difficulties of school contents, and 275 healthy students without learning difficulties and also having identity of socio-demographic characteristics. This sample was also divided by identical groups in terms of the corresponding characteristics of the group of students with learning difficulties.

The diagnosis was made and confirmed in the psychology consultation of the pediatric service, where students with learning difficulties are followed-up. In order to confirm the learning difficulty diagnosis, a psychological and psychopedagogical assessment oriented toward the problem in question was carried out. The students with and without learning difficulties are divided by different ages between 6 and 15, being 10.4 years old the average age and 2.2 years old the standard deviation in the students with learning difficulties, and 10.6 years old and 2.3 years old, respectively, in the students without learning difficulties. A significant part of these students (half) attend the 1st cycle (1st, 2nd, 3rd and 4th school years) and the other half attend the 2nd (5th and 6th school years) and 3rd (7th, 8th, and 9th school years) cycles of basic education.

However, two other groups made up of the parents/guardians of the students were also formed to respond to questionnaires and participate in interviews that were part of the process of obtaining information on the evaluation they made of their children as students. Therefore, there are 275 parents of students with, and 275 parents of students without, a learning difficulty diagnosis.

Research Design

Predominantly quantitative and experimental-type research. After identifying the variables subject to measurement, the methodology of differentiation of the degree of expression between the variables was not chosen because this approach was already used in another study (Pereira, 2015). Consequently, it was deemed pertinent to use in this new stage the methodology of correlations between pairs of variables separately for the groups of students with and without learning difficulties. The purpose was to verify whether there were differences in the types of

correlations between variables in students with learning difficulties in comparison with students without learning difficulties, and also whether the structural cohesion was the same in the two groups of students.

The methodological procedure of inclusion/exclusion of students in the groups with or without learning difficulties derives from the application of several differentiating criteria: the reference by the school based on the information provided by the student's teachers during the past and present school years, proving the student's difficulties in mastering school contents; the poor academic performance shown in the respective school years and periods; the self-assessment by the students, and the observation by the psychology technicians in the field of psychological and psychopedagogical assessment.

This was followed by the authorization from the parents/guardians to include them and their children in the ongoing research. Subsequently, the students were submitted to the process of psychological and psychopedagogical assessment and accompaniment that reinforced and validated their maintenance in the group with learning difficulties or in the group without learning difficulties. Also, the respective parents-guardians were submitted to interviews on the issues being studied and to the questionnaires of socio-demographic and psychopedagogical scope on the characteristics inherent to their children related to the rating of the cognitive, motivational and dedication to study aptitudes.

The data obtained were submitted to statistical analysis based on Pearson's correlational method, and the statistical software SPSS 16.0 (Statistical Program for the Social Sciences) was used.

Instruments

Clinical-psychological diagnostic interview oriented to the specified confirmation or not, of the existence of learning problems in the students mentioned and identified by the school as such, with the purpose of maintaining or removing these students in/from the group to which they belong.

The students were interviewed using the structured interview method, and were asked to self-assessed their cognitive aptitudes to learn and their motivation to study by marking bad, mediocre, regular, good and excellent on a qualitative scale to rate the degree that characterizes them. This information permits to assess qualitatively the degree of correspondence of their self-assessment with the assessment made by the parents-guardians on the same dimensions of the research.

Questionnaire on the socio-demographic and academic characteristics of the students: the first one identified the students in terms of gender, age and family situation; the second one identified the current school attendance year, the frequency of grade retention, and the school year it occurred.

Academic Performance Questionnaire. This presents, in the form of a table or diagram, the records of the grades obtained by the student on a scale of values from 1 to 5 in the three school periods for the current and last years by subject.

Competence measurement questionnaire, addressed to the parents-guardians of the students, which structure consists of the dimensions cognitive aptitude to learn and motivational commitment to learn and study. The parents-guardians characterize the students on a qualitative scale: bad, mediocre, regular, good or excellent, and subsequently the numerical values (1, 2, 3, 4, 5) are assigned by the researcher, corresponding to the school system scale, and related to academic performance. The parents-guardians of the students are asked to register, based on their perception, the student's level of cognitive aptitude to learn subjects, how well they know. Also, this form asks about the student's degree of motivation to learn and even what they know about the child's dedication to study.

The reliability of the scales of the questionnaires - academic performance and measurement of students' competences assigned by the parents/guardians - shows that the methodological instrument meets the requirements for which the measurement was made. Cronbach α equaled 0.71 and 0.91 for the samples with and without learning difficulties, respectively. The values obtained demonstrate greater homogeneity and cohesion of the answers given by the parents-guardians to the scales referring to the constituent dimensions of the questionnaire in the group of students without learning difficulties. Therefore, the lowest index, although with a significant degree of expression, obtained in the group of students with learning difficulties, shows the greatest variation in the values given by the parents-guardians to the cognitive, motivational and dedication to study dimensions of their children, probably because they also present greater differentiation in terms of individual characteristics.

Results

Here, in this part of the structure of learning as a global psychological phenomenon and where we want to understand how variables - academic performance, cognitive aptitude to learn, motivation to study and other socio-demographic factors, such as age, years of school attendance, school failure - interact with each other to produce certain effects on student behavior at school, only their statistically significant correlations higher than $p < .05$ are shown.

In Figures 1 and 2, the continuous lines indicate positive correlations, and the dashed lines represent negative correlations.

Table 1.

Correlation matrix of academic performance of students with learning difficulties

VARIABLES	Age	School year	Grade retention	Adapted program	Aptitude to learn	Motivation to study	Academic performance mean	Performance in Portuguese	Performance in mathematics	Performance in environmental/science studies
Age										
School year										
Grade retention										
Adapted program										
Aptitude to learn										
Motivation to study	-.395	-.310			.162					
Academic performance mean	-.243				.421					
Performance in Portuguese		.182	-.302		.361	.785				
Performance in mathematics	-.378	-.235	-.163		.332	.739	.328			
Performance in environmental/science studies	-.188				.277	.795	.468	.404		

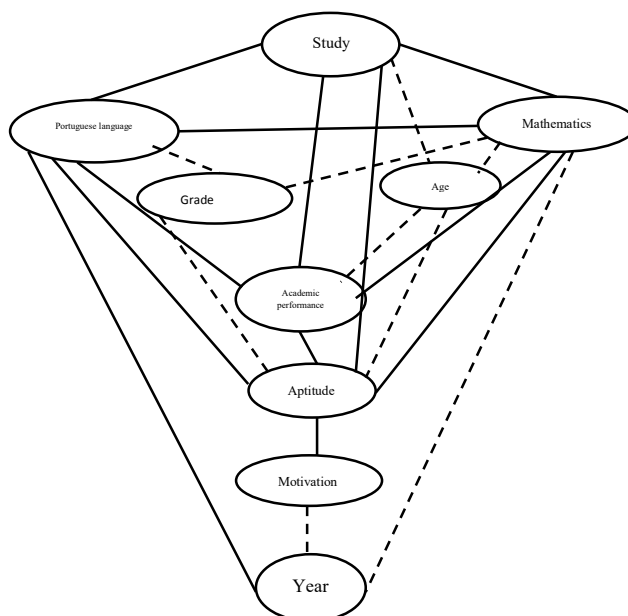


Figure 1. Schematic representation of the correlation matrix of academic performance, aptitudes and motivation of students with learning difficulties.

In the functional structure formed by the connections, represented at the same time in table 1 and in the corresponding figure 1, at psychological level, there are connections where the index of influence on the academic performance of students with learning difficulties is relatively weak. The socio-demographic factors: age, school year and grade retention, are negatively correlated with psychological variables (ability and motivation) and academic performance, ranging from $r = -0.16$ and $r = -0.39$. Then, as students get older, they are attending classes below their chronological age since they have gone through grade retention and are also often subject to programs adapted to their condition, lower levels of aptitude to learn and motivation to study and, consequently, lower academic performance tend to be revealed.

The psychological characteristics (cognitive aptitude to learn and motivation to study) of students with learning difficulties have a poor interaction rate $r = 0.16$. The influence of aptitude on the academic performance in the three guided classes varies between $r = 0.27$ and $r = 0.36$, not existing, in the latter, any type of significant effect of motivation to study. Also, the academic performance in the classes revealed separately connection indexes that do not seem to be significantly stronger: $r = 0.32$ and $r = 0.46$.

Table 2
Correlation matrix of academic performance of students without learning difficulties

Variables	Age	School year	Grade retention	Adapted program	Aptitude to learn	Motivation to study	Academic performance mean	Performance in Portuguese	Performance in mathematics	Performance in Environmental/Science Studies
Age										
School year	.955									
Grade retention	.237									
Adapted program										
Aptitude to learn	-.491	-.357	-.183							
Motivation to study	-.420	-.306	-.424		.564					
Academic performance mean	-.633	-.614	-.167		.636	.519				
Performance in Portuguese	-.561	-.525			.673	.514	.910			
Performance in mathematics	-.601	-.578			.571	.411	.942	.788		
Performance in environmental/science studies	-.594	-.604			.523	.505	.927	.740	.838	

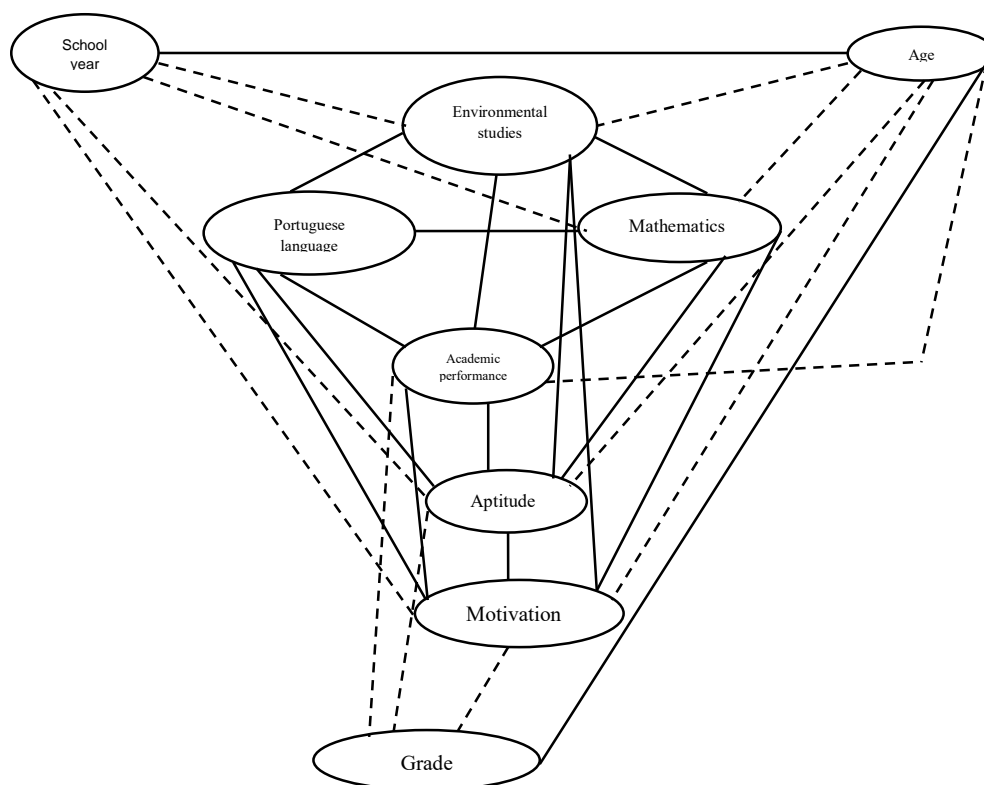


Figure 2. Schematic representation of the correlation matrix of academic performance, aptitudes and motivation of students without learning difficulties.

In the functional structure formed by the connections, represented in table 2 and in the corresponding figure 2, at psychological level, there are connections which rates of influence on

the academic performance of students without learning disabilities are much stronger, at least in comparison with those in students with learning difficulties.

Following the same sequence of the previous paragraph, the socio-demographic factors: age, school year and grade retention also have a negative correlation with the psychological variables (ability and motivation) and academic performance, but now ranging between the values of $r = -0.16$ and $r = -0.60$, predominantly values close to the upper limit. Similarly, the increase in the values related to socio-demographic variables will lower the rates of aptitude to learn and motivation to study and, consequently, resulting in the lowest academic performance. However, these students do not experience learning difficulties and their academic performance is positive. Hence the difference in the group lies in the fact that these students generally attend school in the year according to their chronological age, were not subject to grade retention or adaptation programs, at least so dependent on their ability to learn. It may be that in some cases due to motivational factors of disinterest and lack of dedication to study some of the students of this group could have been subject to some pedagogical measures aimed at improving their functioning.

As for the psychological characteristics (cognitive aptitude to learn and motivation to study) of this group of students without learning difficulties, the interaction index is high ($r = 0.56$). The variation in the influence of the psychological factors on the academic performance in the three guided classes ($r = 0.41 - 0.67$). However, the academic performance obtained separately for each class exhibited significantly higher connection indexes: $r = 0.74 - 0.83$.

Discussion

With respect to the socio-demographic characterization and school attendance situation of students with learning difficulties, the tendency in this group, subject matter of the research, was that they were of a more advanced chronological age, and had lower schooling years, more grade retention and curricular adaptations in comparison with students who were not included, for obvious reasons, under the category of learning difficulties.

The academic performance of the group of students with learning difficulties also exhibits such difficulties; it is absolutely evident in the main tendency to remain in the representative range of negative scores, both in the general mean of total assessments, such as the results obtained in each curricular unit.

However, the components related to the psychological structure of the students, taking into account their assessments, do not show peremptorily the existence of the real learning difficulties in this group of students. While it is clear that most of the students in the group of students with learning difficulties have a significant deficit in the ability or aptitude to learn. Some students who do not necessarily lack cognitive capacity to master the school curriculum, as well as the above group, obtained negative values in academic performance. School failure in these students is probably more a question of lack of motivation to study, translated into lack of dedication to the study process. However, the values obtained in the assessment of the active operationalization of this motivational component tend to suggest that all, or almost all, students of the group with learning difficulties exhibit poor motivational indexes and interest in the study process, which is reflected mainly in a poor dedication to study school subjects.

Consequently, the students with learning difficulties have higher rates in the socio-demographic component represented by grade retention, school cycle frequency and chronological age, that are below the educational-pedagogical component and are related to academic performance in different classes, and in the psychological component with respect to cognitive aptitude to learn and motivation to study, in comparison with students without learning difficulties (Artero, 2012; Leal & Nogueira, 2012; Veríssimo, 2013).

The psychological structure of learning and the consequent academic performance show a specificity difference between the two group of students: with and without learning difficulties. In the first group, the structure of school performance in several individual classes exhibits supporting connections, which, although significant, reveal the weakness of cohesion and coherence among the values obtained. This position is reinforced and confirmed by the weak or moderate connection between the academic performance achieved and the ability or aptitude to learn and master the contents taught at school; although it is evident that school results depend to a great extent on the cognitive skills of the students. The structure seems to suggest that other factors interfere with academic performance. Therefore, motivation to study exhibits only a very weak connection to the ability to learn, and there are no connections showing a direct positive influence on student performance. Students' lack of interest in learning tasks further increases failure rates due to the lack of abilities that facilitate the process.

This group of students with learning difficulties due to the low level of development of the cognitive functions responsible for the reasoning activity is negatively reinforced by the lack of motivation to study, committed to the complete lack of interest of students in the performance of tasks and actions that can only improve their performance. Part of the aforementioned group of students seems to have skills to learn school contents, which could help them achieve successful school performance, although moderate, if they had motivation to study, if they were interested and participated in the acquisition and mastery of knowledge related to the school curriculum. Obviously, the consequence here is to achieve more school success and not so much educational success, as reported by some authors (Arends, 1995; Perrenoud, 2003; Pozo, 2005; Leal & Nogueira, 2012; Veríssimo, 2013).

This interpretation is reinforced and confirmed by the learning structure and the existing academic performance of the group of students without learning difficulties. In this case, the links that support the consistent and even infallible academic performance achieved in the different classes are very strong. Likewise, the strength imparted by the ability to learn is noticeable and clarifies their role in learning and consequently in school performance. In addition, the motivation to study of this group of students has strong links with the ability to learn and academic performance in all school units. This shows that in order to have school success, especially at level of educational event, the functions positively performed in the psychological structure, either by cognitive aptitude to learn or motivation to study, are essential. The emerging confirmation that some students have revealed sufficient cognitive ability to learn, but have poor motivation to study, easily observed in their lack of interest in the study process, which is reflected in the uneven academic performance (Artero, 2012; Nogaro, Ecco & Rigo, 2014). Positive academic performance does not depend exclusively on the cognitive ability to learn, and situations of negative academic performance mainly due to low motivation to study occur frequently (Table & Jacometo, 2017). Thus, it can be concluded that negative academic performance of students with learning difficulties, especially, results from an insufficient development of the ability to learn, and the low level of motivation to study further worsens negative academic performance. Particularly, in this group, there are students with poor learning skills, but the reasonable level of motivation to study and dedication to the study process can achieve satisfactory, but acceptable, results in academic performance. On the contrary, the poor and negative academic performance of students without learning difficulties is mainly caused by the very low rate of motivation and dedication to study, but never, or almost never, by lack of ability to learn (Barbosa, 2015; Dutra, Ghedin, Ghedin & Nicot, 2017).

Consequently, the psychological, psycho-educational, psycho-pedagogical structure of learning, as an activity, of students diagnosed with learning difficulties show poor levels of consistency and homogeneity of correlation between the components: academic performance, aptitude to learn and motivation to study, which proves the high individual variability and specificity of the problems experienced by these students. The students' deficient cognitive resources and the consequent awareness of their lack of ability to learn develop in them attitudes of avoidance of failure in completing tasks using school contents, which is reflected negatively in

the motivation and dedication to the study process, low levels of which worsen learning difficulties. This explanation can be deduced by inference from the comparison, in terms of interpretation, with the structure of students without learning difficulties where the reliability index of cohesion, consistency and the homogeneity relation between the components are high and very significant.

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