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Creative Environment in the Classroom and Students' Satisfaction with School*

Ambiente criativo em sala de aula e a satisfação escolar dos alunos

Entorno creativo en el aula de clase y satisfacción escolar de los alumnos

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Abstract

Creativity is recognized as a cross-cultural requirement for the twenty-first century. This article aimed to characterize the students' representations of creative environment and to explore the associations between students' perceptions of the creative environment at school and the participants' satisfaction with school. The study population consisted of 526 parents and 526 students from the third grade of primary school, 250 females (47.5 %) and 276 males (52.5%), aged between 8 and 11 years old (M = 8.27, SD = 0.50). The data was collected in school context through a questionnaire built within the scope of the current research and the Climate for Creativity in the Classroom Questionnaire. The analysis was performed using a quantitative methodology. The parents and students were satisfied with the children's school and the students perceived the classroom environment as creative. The students' perceptions of the creative environment in their classroom predicted their satisfaction with multiple aspects of the school analysed. Results were compared with findings from previous research.

Keywords

creative environment; satisfaction with school; education; students; primary school

Resumo

A criatividade é reconhecida como um requisito transcultural para o século XXI. O presente artigo teve como objetivo caracterizar as representações dos alunos sobre o ambiente criativo e explorar as associações entre as percepções dos alunos sobre o ambiente criativo na escola e a satisfação deles e de seus pais com a escola. Participaram no estudo 526 pais e 526 alunos do 3° ano do ensino fundamental, 250 mulheres (47,5%) e 276 homens (52,5%), com idades compreendidas entre os 8 e os 11 anos (M= 8,27, DP= 0,50). Os dados foram recolhidos em contexto escolar através de um questionário construído no âmbito desta investigação e do Questionário de Clima para a Criatividade na Sala de Aula. Os dados foram analisados por meio de metodologia quantitativa. Os pais e alunos ficaram satisfeitos com a escola e os alunos consideraram o ambiente da sala de aula criativo. As percepções dos alunos sobre o ambiente criativo em sua sala de aula previram a satisfação com vários aspectos da escola analisada. Por fim, os resultados foram comparados com resultados de investigações anteriores.

Palavras-chave

ambiente criativo; satisfação com a escola; educação; alunos; escola fundamental

Resumen

Se reconoce la creatividad como un requisito transcultural para el siglo XXI. El presente artículo de investigación tuvo como objetivo caracterizar las representaciones de los estudiantes del entorno creativo y explorar las asociaciones entre las percepciones de los estudiantes del entorno creativo en la escuela y su satisfacción y la de sus padres con la escuela. Participaron en el estudio 526 padres y 526 estudiantes de tercer grado de primaria, 250 mujeres (47,5 %) y 276 hombres (52,5 %), con edades comprendidas entre 8 y 11 años (M= 8,27, DT= 0,50). Los datos fueron recolectados en el contexto escolar a través de un cuestionario construido para la presente investigación y del Cuestionario de clima para la creatividad en el aula. Los datos se analizaron mediante una metodología cuantitativa. Los padres y los alumnos se mostraron satisfechos con la escuela y los alumnos percibieron el ambiente del aula como creativo. Las percepciones de los estudiantes sobre el entorno creativo en su aula predijeron la satisfacción con los múltiples aspectos de la escuela analizada. Los resultados se compararon con los de investigaciones anteriores.

Palabras clave

entorno creativo; satisfacción con la escuela; educación; estudiantes; escuela primaria

If creativity is now recognized as an urgent, transdisciplinary, and cross-cultural requirement for the twenty-first century management (Primi & Wechsler, 2018; Starko, 2010), this recognition also happens, and incisively, in the educational context (Cropley, 2009; Tazhigalieva & Bekimbetova, 2020).

However, is it possible to educate for creativity? What relevance can the educational context have in this competence that is so required today? Many authors argue that creativity can be developed (e.g.: Cropley, 2009) and that it should be inserted into the educational context in a conscious and intentional way, considering it even as vital in the school context (Fleith, 2001; Mukhitdinovich & Mirzabdullaevich, 2021). Consequently, the number of studies on creativity has undergone a significant increase in recent decades, especially at the educational level, due to the importance of this construct for personal and social development (Matos, 2005). The school is a space of multiple influences and the acquisition of knowledge and skills and the existence of a curriculum that presents the appropriate characteristics for the promotion of creativity is urgent (Joubert, 2007). On the other hand, it is at school that children or young people live a large part of their educational path (Davis, 2004), with the need for teachers to promote an environment that favours the development of creativity. Authors such as Alencar (2002) also mention that creativity is a necessary skill in the educational context because it promotes well-being, contributing to a better quality of life for people and helping in the professional training of teachers, helping students and teachers to deal with the adversities and challenges imposed by the present and future times.

For decades, authors like Martínez (1997) or Csikszentmihalyi (2005) referred that creativity is one of the keys to the development and progress of schools, constituting an added value, as it reinforces the quality of teaching and the well-being of the educational community and society. In this sense, Gontijo (2007) defends an analysis of the curriculum in order to verify if it privileges creative processes or just memorization, adding that it is necessary to invest in the training of teachers so that they can develop their own creativity and stimulate the creativity of students. Also, other authors (e.g.: Cropley, 2009) have explained that creativity should be an object to be considered, primarily, in school education.

Due to these conceptions, in recent years, some countries have begun to integrate programs in their education systems for the development of creativity, with the aim of achieving a balance between students' academic skills and their ability to create new and useful products for society (Prieto et al., 2013). However, despite the efforts to include this construct in the documents that guide the educational system, there are still many gaps regarding the implementation of teaching aimed at developing creative potential. Practical factors, such as pressure to comply with curricular

programs, the distribution of teaching time, the type of assessment required, and the physical and material conditions of schools (Sternberg, 2015) are pointed out as constraints to the development of a creative climate in the educational system. Simultaneously, teaching is still centred on a methodology that favours rational, logical, and verbal skills, which promotes memorization and convergent production of responses, to the detriment of a process of widening possibilities from error and stimulus, as well as from valuing students' skills and creative expressions (Nakano, 2009). On the other hand, one of the great challenges of education has been to recognize the diversity of students who are in the educational systems in terms of rhythms, styles, interests and potential. It is intended, therefore, that a greater number of students can benefit from educational contexts that favour the creative capacity of students at all levels of education (Nakano & Weschsler, 2006). Thus, the existence of several barriers to creative expression at school is considered.

Recognizing the importance of promoting creativity since the beginning of schooling, it is important to clarify the concept of creative environment in an educational context. For Alencar and Fleith (2012), a creative atmosphere in the classroom is characterized by a set of characteristics: an environment of acceptance and respect among all stakeholders (teachers and students); valuing the interests and abilities of students; encouraging autonomy; encouragement and support for original ideas; moments of reflection on the content worked on, elaboration of new interpretations and critical evaluation of the subject covered (Alencar & Fleith, 2012).

In creating a favourable climate for creativity in the classroom, teachers (e.g.: Bereczki & Kárpáti, 2018; Fleith & Alencar, 2008; Gralewski, 2018; Kettler et al., 2018; Nikolaos & Kiprianos, 2020; Prieto et al., 2013; Sierra et al., 2015) and students play a central role (e.g.: Maksić & Spasenovic, 2018; Prieto et al., 2013). Nevertheless, one cannot think about the development of a creative atmosphere in the classroom, nor in teachers or creative students, without taking into account the representations that both educational agents have about creativity, as those shape attitudes and behaviours (Moscovici, 2003). Thus, representations of creativity can be essential to support practices that inhibit or facilitate such a creative climate in the school context.

According to Moscovici (2003), representations are not reproductions of reality, they are subjective mental constructions of that same reality, providing ways of understanding, evaluating, and explaining it. Therefore, it is important to know the representations of the students (Gonçalves & Fleith, 2015), since their opinion of what creativity is and how creative they are influences their behaviours (Beghetto & Plucker, 2016). Also, the way students evaluate the creative climate, namely in the classroom, can condition their creative expression. These representations then help to

assess needs and expectations, from which adequacy or possible changes in educational practices will be made (Alencar & Fleith, 2016). Several studies reveal a positive evaluation, by the students' representations, regarding the influence of the classroom in the development of their creative potential, namely a positive representation of the classroom climate for the pleasure of learning (e.g.: Castro & Fleith, 2008; Dias, 2014; Pereira, 2014; Pinheiro-Cavalcanti, 2009). However, in listening to students there is also reference to some gaps, for example, related to the incentive to develop autonomy (Dias, 2014). Specifically, in these studies students evaluated the parameters of the creative climate in the classroom: "Teacher Support to Expression of Ideas", "Student Interest in Learning" and "Self-perception of Creativity" with students from the third and fourth grades (Dias, 2014), as in the study by Fleith and Alencar (2006). Similar results were found in the study by Fleith and Alencar (2012) with sixth-grade students. Comparing years of schooling, in the study by Fleith and Alencar (2006), the fourth-grade students presented a more positive view of the classroom climate, compared to the third-grade students, especially with regards to "Teacher Support for Expression of Ideas" and "Autonomy", since those students considered they had the biggest opportunity to develop their creativity in the classroom. On the other hand, for these authors, younger children have greater difficulty in recognizing creative ideas and are not yet so prepared to apprehend situations that require greater cognitive maturation. In both studies, and taking the parameters regardless of age, the student's autonomy was the least positively evaluated factor, with this being perceived as being less encouraged by teachers. In this sense, Fleith and Alencar (2006) or Beghetto and Plucker (2016) reinforce the idea that the teaching and learning process is still very centred on the figure of the teacher, that is, it is he/she who plans, chooses, decides and evaluates the things to be held in the classroom. As for gender differences, in the two previous studies (Dias, 2014; Fleith & Alencar, 2006), girls perceived greater "Teacher Support for Expression of Ideas", more "Interest in Learning" and greater "Incentive to Student Autonomy" in relation to boys. With regards to the concept of creative student, students' representations focus on environmental sensitivity, intellectuality, inner strength, and initiative. Students also refer to the ability to self-assess, demonstrate divergent thinking and be sensitive and friendly. As for students' self-perception of creativity, in the study by Fleith and Alencar (2006), no gender differences were observed, with both genders presenting positive representations of themselves. Similar results were recorded by Kemmelmeier and Walton (2016), that is, no gender differences were found in the self-assessment of creativity. For their part, Fleith and Alencar (2012), noting a positive self-concept in sixth grade students for both genders, showed male students with higher values, particularly with regards to body and social skills. Gonçalves and Fleith (2015) state that the

self-concept variable plays an important role in motivational and creative processes. Conversely, research has shown that from training in creativity, through programs, for example, the level of students' self-concept increases significantly, as highlighted by Gonçalves and Fleith (2015), thus having a reciprocal relationship between the two variables. Already relating creative achievement and creativity self-assessment, recent research has shown that people who consider themselves creative are more likely to look for tasks that require creativity, the converse happening with those who perceive themselves as not very creative (Kemmelmeier & Walton, 2016). Also, in the study by Fleith and Alencar (2008), statistically significant correlations emerged between students' representations of interest in learning, their autonomy, and their creativity, taking the context of the classroom.

All of this information provided by these investigations may provide important data about the path traced and the efforts that still need to be made to implement creativity at school and, specifically, in the classroom, in order to awaken within students the pleasure of learning and the act of creating, also strengthening a positive self-image (Fleith & Alencar, 2012). However, more research seems necessary with regards to the representations of creativity and the creative climate on the students' part, particularly at the beginning of their school career. On the other hand, studies that analyse the representations of the students' creative environment in the way that themselves and their parents see and represent the school are unknown. This relation seems extremely important since the way parents see the school will impact the way they get involved in it. The benefits of parental involvement in a school context for the well-being of students and their academic success are clear (Goodall, 2013; Gubbins & Otero, 2020; Hill & Tyson, 2009; Wilder, 2013). This study emerges in this context, with the goal of characterizing the representations of students' creative environment at the beginning of their school career (third year of primary school), and of perceiving the associations between the students' perceptions about the creative environment and the participating students' and their parents' satisfaction with school, given its relevance to the students' academic success.

Method

Participants

526 parents of the students in the third year of the primary school, 445 mothers (84.7 %) and 67 fathers (12.7 %), took part in this study. The mothers had an average age of 38.44 years (SD = 5.92, Min = 20, Max = 56), and the parents, 40.98 years (SD = 6.39, Min = 26, Max = 65). These

participants were the parents of 526 students from the third year of the primary school, 250 females (47.5 %) and 276 males (52.5 %), aged between 8 and 11 years old (M = 8.27, SD = 0.50) and which had, on average, 1.32 siblings (SD = 1.27, Min = 0, Max = 7).

The parent or guardian responsible for the child's education was mostly the mother (84.6 %, n = 445). Only 12.7 % (n = 67) were fathers, and in 14 cases (2.7 %) this role was attributed to another family member or someone from outside the family.

Instruments

The sociodemographic data was obtained, both with parents and children, by filling out an individual identification form built in the scope of this research.

Parents' satisfaction with the various aspects of their children's school was assessed by formulating 5-point Likert questions, in which the parents expressed their satisfaction with the various aspects listed.

The environment of creativity in the classroom was evaluated through the Portuguese version (Dias, 2014) of Climate for Creativity in the Classroom of Fleith and Alencar (2006). This instrument consists of 22 self-answering items (e.g.: "The teacher pays attention to my ideas", "I am creative", "The tasks I do are fun") answered through a 5-point Likert scale (1: Never, 2: A few times, 3: Sometimes, 4: Often, and 5: Always), which allows the evaluation of the Support for the Expression of Ideas (α = .71, 9 items), the Student's Interest in Learning (α = .72, 7 items), the Self-Perception of Creativity (α = .65, 3 items) and the Student's Autonomy (α = .73, 3 items).

The psychometric characteristics verified were good, as it proved to be a questionnaire with good indicators of internal consistency, in general, and that explains 51.7 % of the variance of results.

Students' satisfaction with the school was analysed through questions assessed on a 5-point Likert scale, in which students were asked how much they liked the various subjects taught at school, their colleagues, teachers and the school itself.

Procedures

This research obtained a positive opinion from the Ethics Committee of the Universities, to which the authors affiliated, and from the Directorate General for Education to carry out research in a school context.

A representative sample of third year students from the primary school was selected to take part in the study and the National Confederation of Parents' Associations, the National Association of Directors of School

Districts and Public Schools and the National Association of Teachers were established as partners. One of the elements associated with the partners made the first contact with the selected school districts. After explaining the aims of the study and obtaining a positive answer, the school districts were contacted by the researchers for a more detailed explanation of the aims of the study, sending an informed consent and scheduling of the data collections.

To build a representative sample of the population, the groups of schools from the two largest districts in the country were considered. Subsequently, as criteria for selection of schools, the percentage of positive results in the last exams, the level of education of the parents, the place of birth of the parents and the percentage of students benefiting from social support were used.

Considering the age of the participant students, all parents or guardians responsible for their education were asked to fill in an informed consent, authorizing the participation of the students in the study. All school districts, as well as all participating parents, also filled in an informed consent.

Data was collected in school context, being administered collectively for each participating class. It was collected in digital format through the application GSP4Sucess (Barroso et al., 2019) built in the scope of this research. At least one researcher and the class teacher were always present at each data collection.

Data was analysed using IBM SPSS, version 25.0 for Windows (IBM, 2017). The normality of the distribution of variables was verified, as well as the homogeneity of variances. When the assumptions for using the parametric tests were not assured, the statistical treatment of the data was performed using the corresponding non-parametric tests. However, once the results were concordant, it was decided to present the results of the parametric tests, following a recommendation by Fife-Schaw (2006).

Results

Parents' satisfaction with school aspects

Table 1 presents the descriptive results regarding the satisfaction of parents and guardians responsible for the child education with school aspects.

The averages obtained in the various aspects evaluated indicate that the parents and guardians were, in a general way, satisfied with them. However, they were most satisfied with their children's teachers, while the one in which participants revealed less satisfaction was the school exterior facilities, followed by the interior facilities.

Table 1.

Descriptive measures and intercorrelations of parents' satisfaction with some of the school aspects

	1	2	3	4	5	6	7	8	9	10	11
1. Satisfaction with teaching	1										
2. Satisfaction with the teacher	.61[c]	1									
3. Satisfaction with the school staff	.46[b]	.40[b]	1								
4. Satisfaction with the school direction	.57[c]	.42[b]	.58[b]	1							
5. Satisfaction with the child's classmates	.45[b]	.33[a]	.37[a]	.45[b]	1						
6. Satisfaction with school extracurricular activities	.47[b]	.42[b]	.44[b]	.51[b]	.44[b]	1					
7. Satisfaction with school interior facilities	.29[a]	.22[a]	.35[a]	.35[a]	.32[a]	.42[b]	1				
8. Satisfaction with school outside facilities	.31[a]	.18[a]	.37[b]	.38[b]	.28[a]	.44[b]	.72[c]	1			
9. Satisfaction with activities organized by the school	.50[b]	.33[a]	.48[b]	.60[c]	.36[b]	.52[b]	.51[b]	.58[c]	1		
10. Satisfaction with school climate	.57[c]	.38[b]	.55[b]	.59[c]	.54[b]	.49[b]	.46[b]	.55[b]	.65[c]	1	
11. Satisfaction with school location	.24[a]	.27[a]	.30[a]	.27[a]	.28[a]	.26[a]	.29[a]	.29[a]	.31[a]	.41[a]	1
M (SD)	4.26 (0.74)	4.55 (0.70)	4.14 (0.79)	3.97 (0.85)	4.04 (0.83)	3.96 (0.90)	3.77 (0.91)	3.67 (1.00)	3.91 (0.92)	3.96 (0.87)	4.43 (0.76)

Note. [a] $p < .05$; [b] $p < .01$; [c] $p < .001$.

Fuente:

Likewise, there were positive correlations between the various aspects assessed, indicating that the more parents or guardians responsible for child's education were satisfied with one aspect of the school, the more they were satisfied with the other aspects.

The existence of correlations between the various aspects analysed allowed the construction of a new variable, called "parents' satisfaction with their children's school". This computed variable was constructed from the average of all the questions previously analysed. Thus, the average of parents' satisfaction with their children's school was 4.06 (*SD* = 0.58, Min = 2.18, Max = 5.00).

Associations between parents' satisfaction with their children's school and the family's sociodemographic variables (gender of the child, child's age, age of parents, number of siblings) were analysed, with no association between satisfaction with school and sociodemographic variables.

Students' satisfaction with the school aspects

Table 2 presents the descriptive results regarding the satisfaction of students with the school aspects.

Table 2.

Descriptive measures and intercorrelations of students' satisfaction with some of the school aspects and the school creative environment

	1	2	3	4	5	6	7	8
Students' satisfaction with Portuguese language	1							
Students' satisfaction with Maths	.18[a]	1						
Students' satisfaction with English	.24[a]	.25[a]	1					
Students' satisfaction with Art	.19[a]	.24[a]	.25[a]	1				
Students' satisfaction with Physical Education	.18[a]	.25[a]	.18[a]	.29[a]	1			
Students' satisfaction with school	.23[a]	.09	.12	.13	.05	1		
Students' satisfaction with teachers	.25[a]	.05	.12	.08	.02	.46[b]	1	
Students' satisfaction with friends/classmates	.15[a]	.04	.13	.14[a]	.04	.26[a]	.28[a]	1
M (SD)	4.48 (0.89)	4.20 (1.06)	4.23 (1.10)	4.56 (0.86)	4.73 (0.70)	4.76 (0.63)	4.86 (0.48)	4.78 (0.55)

Note. [a] $p < .05$, [b] $p < .01$

Fuente:

The averages obtained in the various items analysed about the participants' interests seem to show great satisfaction of the participant students regarding the contents taught in the school context (M = 4.49, SD = 0.80) and the school itself (M = 4.76, SD = 0.63), peers (M = 4.86, SD = 0.48) and teachers (M = 4.78, SD = 0.55), since the averages obtained are all higher than 4 (Min = 1, Max = 5).

It was also found that students' satisfaction with the various subjects correlated with each other, which led to the creation of a new variable called "students satisfaction with the various subjects", which resulted from the average obtained by the students' satisfaction with each of the subjects. In this new computed variable (students' satisfaction with the various subjects) an average of 4.48 was obtained (SD = 0.51, Min = 1.33, Max = 5.00).

It was also verified, as can be seen in Table 2, the existence of some correlations between the satisfaction of students in some subjects, especially in the Portuguese language, and their satisfaction with their school, teachers and peers. However, there were no associations between different subjects and the students' satisfaction with their school, teachers, and peers. When analysing the correlations obtained between students' satisfaction with the school, teachers and peers and the computed variable students' satisfaction with the various subjects, intercorrelations were found. Thus, students' satisfaction with the various subjects correlated significantly with their satisfaction with school (r = .33, p <.01), teachers (r = .24, p <.01) and peers (r = .24, p <.05).

Associations between the students' satisfaction with the school, teachers and peers, the various subjects taught and the sociodemographic variables of their family (gender of the child, age of the child, age of the parents, number of siblings) were analysed showing statistically significant associations.

Finally, the associations between parents' satisfaction with the children's school and the children's satisfaction with the subjects taught in the school and the students' satisfaction with the school itself, teachers and peers were analysed. A statistically significant correlation between parents' satisfaction with the various aspects of the school and the students' satisfaction with various subjects (r = .20, p <.05) was the only association found.

Students' perceptions of the creative environment in their own classroom

Table 3 presents the descriptive measures of creative environment as perceived by students in their own classroom, as well as the correlations between these variables.

Table 3.

Intercorrelations and descriptive measures of creative environment

	1	2	3	4
1. Support for the expression of ideas	1			
2. Students' interest in learning	**.42[b]**	1		
3. Self-perception of creativity	**.39[b]**	**.43[b]**	1	
4. Students' autonomy	**.43[b]**	**.22[a]**	**.20[a]**	1
M (SD)	4.32 (0.56)	4.56 (0.48)	4.35 (0.64)	3.67 (0.96)

Note. [a] $p < .05$; [b] $p < .01$

Fuente:

The averages obtained in the various factors of the survey ranged from 3.67 (student autonomy factor) to 4.56 (student's interest in learning), which seems to show that students perceive their own classroom context as creative, since the maximum result that could be obtained was 5. This data is further reinforced when we observe that the *SD* obtained is small.

Results point out that the various factors were moderately or slightly correlated with each other in a significant way, with one of the factors potentiating the remaining ones, since they all correlate with each other.

When analysing the associations between students' perceptions of the creative environment in their own classroom and their sociodemographic variables, it was found that the age of the students was significantly associated with the support for the expression of ideas ($r = .18$, $p < .05$) and the student autonomy factor ($r = .22$, $p < .01$). Thus, the older the students, the more they perceived support for the expression of ideas and autonomy in the development of their school tasks.

Parents' and students' satisfaction with the school aspects and students' perceptions of the creative environment in their own classroom

Table 4 presents the intercorrelations regarding the satisfaction of parents and students with the school aspects and students' perceptions of the creative environment in their own classroom.

Parental satisfaction with their children's school did not correlate with any aspect of the creative environment, except for the support for the expression of ideas, in which there was a weak correlation ($r = .17$, $p < .05$). Thus, the more parents were satisfied with their children's school, the more they considered that there was support for the expression of ideas.

Table 4.

Intercorrelations of parents' and students' satisfaction with some of the school aspects and the students' perception of school creative environment

	1	2	3	4	5	6	7	8	9
Students' satisfaction with the various subjects	1								
Students' satisfaction with school	**.33[b]**	1							
Students' satisfaction with teachers	**.24[a]**	**.46[b]**	1						
Students' satisfaction with friends/classmates	**.24[a]**	**.26[a]**	**.28[a]**	1					
Parents' satisfaction with their children's school	**.20[a]**	.05	.04	.09	1				
Support for the expression of ideas	**.31[b]**	**.23[a]**	**.19[a]**	**.26[a]**	**.17[a]**	1			
Students' interest in learning	**.27[a]**	**.20[a]**	**.18[a]**	**.20[a]**	.05.	**.42[b]**	1		
Self-perception of creativity	**.26[a]**	**.21[a]**	**.17[a]**	**.19[a]**	.08.	**.39[b]**	**.43[b]**	1	
Students' autonomy	**.21[a]**	.10	.11	**.17[a]**	.09	**.43[b]**	**.20[a]**	**.19[a]**	1

Note. [a] $p < .05$; [b] $p < .01$

Fuente:

On the contrary, the students' satisfaction in the various subjects, the school, teachers and peers correlated with all the factors evaluating students' perception of the school creative environment with the exception of the student's autonomy factor, which was not significantly associated with the students' satisfaction with the school ($r = .10$, *ns*) and with the students' satisfaction with teachers ($r = .11$, *ns*).

Based on the above intercorrelations, a multiple regression was conducted for each measure of satisfaction assessed, to identify the predictors of students' satisfaction with the various subjects taught at school, the school itself and their teachers and colleagues and parents' satisfaction with their children's school, considering, in each model, students' perceptions of the creative environment in their own classroom as independent variables.

The assumptions of the models were analysed, specifically the normal distribution, homogeneity, and independence of errors. The first two assumptions were validated graphically, and the independence assumption was validated with the Durbin-Watson statistic. The Variance Inflation Factor (VIF) was used to diagnose multicollinearity, and there were no collinear variables in all models.

The final regression models of the students' and parents' satisfaction with the school are shown in table 5.

Table 5.

Separate multiple regression models: Students' and parents' satisfaction with school predictors

	Students' satisfaction with the various subjects		Students' satisfaction with school		Students' satisfaction with teachers		Students' satisfaction with friends/ classmates		Parents' satisfaction with their children's school	
	B	β	B	β	B	β	B	β	B	β
Support for the expression of ideas	.16	**.17[a]**	.13	**.12[a]**	.14	**.16[a]**	.13	**.14[a]**	.19	**.18[a]**
Students' interest in learning	.14	**.14[a]**	.14	**.11[a]**	.09	.09	.12	**.12[a]**	-.04	-.03
Self-perception of creativity	.10	**.12[a]**	.11	**.12[a]**	.02	.02	.04	.04	-.06	-.07
Students' autonomy	.03	.06	-.02	-.03	-.08	-.01	.02	.04	-.02	-.02
Overall statistics	F (4, 518) = 19.09, p < .01; Durbin-Watson: 2.01; R^2 = 0.122		F (4, 518) = 9.42, p < .001; Durbin-Watson: 1.92; R^2 = 0.08		F (4, 518) = 6.40, p < .01; Durbin-Watson: 1.97; R^2 = 0.07		F (4, 518) = 8.79, p < .001; Durbin-Watson: 2.01; R^2 = 0.07		F (4, 510) = 3.06, p < .05; Durbin-Watson: 1.81; R^2 = 0.04	

Fuente:

The final models explained between 4 % (parents' satisfaction with the children's school) and 12 % (students' satisfaction with the various subjects) of the variance observed in the different components of students' and parents' satisfaction with school.

In the students' satisfaction with the various subjects, support for the expression of ideas (β = .17, p < .05), students' interest in learning (β = .14, p < .05) and self-perception of creativity (β = .12, p < .05) were identified as significant predictors, with greater students' satisfaction with the various subjects being associated with greater support for the expression of ideas, students' interest in learning and self-perception of creativity.

Regarding students' satisfaction with school, the predictors were the same: support for the expression of ideas (β = .12, p <.05), students' interest in learning (β = .12, p < .05) and self- perception of creativity (β = .12, p <.05). The students' satisfaction with teachers was only predicted by the support for the expression of ideas (β = .16, p < .05).

Similarly, students' satisfaction with friends/classmates was also predicted by the support for the expression of ideas (β = .14, p <.05), but also by the students' interest in learning (β = .12, p < .05).

Finally, parents' satisfaction with their children's school had the support for the expression of ideas ($\beta = .18$ $p < .05$) as the only significant predictor, which reveals that support for the expression of ideas is associated with parents' satisfaction with their children's school.

Discussion

The present study aimed to characterize the representations of the creative environment of students in the third year of primary school and to perceive the associations between students' perceptions about the creative environment and the satisfaction of their parents and the participating students with the school.

The parents and guardians responsible for the child education were, in a general way, satisfied with the various aspects of the children's school, which is an extremely positive result, because the satisfaction with the various aspects of the school are connected to students' and their families well-being, as well as the students' academic achievement and success. However, the aspect in which parents and guardians responsible for the child's education were most satisfied with was the pupils' teachers. This result highlights the importance of these educational agents for the satisfaction of these figures with the students' school life. In addition to being extremely relevant for academic performance, teachers should become reference figures for children, as they promote the development of multiple skills in children and also serve as role models for their students. Therefore, it is extremely favourable for the harmonious development of students when teachers are recognized by parents or guardians as responsible figures and as the most favourable aspect of the educational context. On the other hand, the aspect in which participants revealed less satisfaction was the school exterior facilities. The importance of this result is emphasized, as facilities can influence the well-being of children as well as of all educational agents and may also impact, for example, the activities that schools and teachers propose to children and their families do. These may not be the activities that teachers and schools find the most appropriate or important, or that meet the needs of students, but may be those that can be done using the facilities they have. It was not possible to analyse these results in the light of previous research, since research that deals with this theme is unknown, and these results are exploratory.

The participant students were also very satisfied with the content taught in the school and with school itself, peers, and teachers. Further analysis of the data would be necessary, with the use of other complementary measures, in order to understand whether these results are in fact reliable to the satisfaction of the participants or if there is any bias of social desirability.

When comparing the perspectives of parents and children about their satisfaction with the school, it was found that the parents' satisfaction with the various aspects of the school was only significantly associated with the students' satisfaction with the various subjects. This result reveals the different components that need to exist in schools for parents and children to be satisfied with them, making it clear that the characteristics that need to exist for the children to like and feel satisfied with school are necessarily different from those that their parents appreciate. Probably, for children the acceptance of peers and the feeling of competence in the development of activities are extremely important aspects; whereas for parents, to whom the importance of these issues is not underestimated, other dimensions are considered equally important, such as the quality of teaching, the contents taught, the school facilities, the type of activities and experiences that the institution provides, among others, which enhances the absence of more significant correlations between the perceptions of parents and children with regards to satisfaction with school.

Concerning the characterization of the creative environment in the classroom, the participants perceived it as creative, since average values close to 4 were obtained and the maximum value that could be obtained was 5. This data is further reinforced when we observe that the *SD* obtained is small.

Results point out that the various factors were moderately or slightly correlated with each other in a significant way. The existence of these correlations seems to highlight the multifaceted character of the creative environment, depending on a set of factors. In the present questionnaire, there are factors that are more related to the teachers' attitude to stimulate the creative environment (e.g.: support for the expression of ideas), but there is also a focus on the active role that the student can have in generating a creative and stimulating environment in the classroom (e.g.: students' interest in learning), with evidence that one of the factors potentiates the remaining ones, since they all correlate with each other, which corroborates the results obtained by the literature, namely, Alencar and Fleith (2016) and Sierra et al. (2015).

Finally, separate multiple regression models were carried out, which aimed to understand how students' perceptions of the creative environment in their classroom predicted students' satisfaction with the various subjects taught at school, the school itself, teachers and colleagues and parents' satisfaction with their children's school.

The least explanatory final model was that of parents' satisfaction with their children's school (4 %) and the most explanatory was the students' satisfaction with the various subjects. These results reinforce the previous findings, regarding the parents' satisfaction with their children's school,

since they emphasize that the creative environment in the classroom context is just one of many dimensions that they value to consider themselves satisfied with their children's school. Likewise, the multiplicity of dimensions that influence each other for the satisfaction of students with the school is present in the results obtained in the explanatory models, according to the perspective of the participating students. The final most explanatory model was that of the students' satisfaction with the various subjects, which proved to be as expected, since the independent variables that were used to assess the creative environment in the classroom were closely related to what happens within the context of classroom while students are involved in the teaching-learning process: support for the expression of the ideas, students' interest in learning, self-perception of creativity and students' autonomy. It was expected that the assessment that students made about the creative environment in the classroom would be more important to the satisfaction of students with what they learned, compared to their satisfaction in school, peers and the teacher, in which there are certainly many other variables that are considered by students as the most important. These results, in a way, are congruent with the results obtained by Castro and Fleith (2008), Dias (2014), Pinheiro-Cavalcanti (2009) and Pereira (2014) which verified the existence of associations between the creative environment and pleasure of learning.

Although the models are all significant, highlighting the importance of the creative environment in the classroom, the results also emphasize that this is only one of the variables that interfere in the satisfaction of parents and students with the educational context. Further research is necessary to pointing the complexity of this context to identify other variables and clarify the way in which they interrelate with each other, since the intra-individual characteristics of students and teachers and the influence of family and context characteristics are present in this context and considering if any variable is studied independently of the others, it will always explain a low percentage of student satisfaction with the educational context, given the complexity and multiplicity of variables that interfere in it. Consequently, it would be important to carry out investigations with multiple informants and to analyse which variables (intra-individual, family, teacher and school) influence students' satisfaction with the school, as well as how these variables relate to each other, and what is the influence of time. Are the most important variables during primary school also the most important ones in following years of education? How and why does the importance change (if so)?

Therefore, the limitations of the present study are the non-use, as informants, of teachers and school leaders, which would allow a more enriched conception of the evaluation of the educational context, as well as the non-use of other variables that would enrich the models and increase its predictive ability.

Despite these limitations, the importance of the results obtained seems clear, as the representations of creativity can be fundamental to support practices that inhibit or facilitate such a creative climate in the school context (Moscovici, 2003). In an educational context, it is imperative to know the representations of students, since their conceptions about creativity and about whether they are creative influence their behaviours (Beghetto & Plucker, 2016), conditioning their creative expression. For educational agents, this information is also relevant as it helps in the assessment of the needs and expectations of students, helping to adapt their educational practices (Alencar & Fleith, 2016).

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