

**Development of a scale of participation in extracurricular activities for children**  
**Elaboração de uma escala de envolvimento em atividades extracurriculares para crianças**  
**Elaboración de una escala de participación en actividades extracurriculares para niños**

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**Abstract:** The article presents the process of elaboration of the Scale of Involvement in Extracurricular Activities for Children (SIEAC). The first version of the instrument was applied to 178 students of both sexes from two public schools in a city of the state of Minas Gerais (Brazil), aged 8 to 12 years, attending the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> years of elementary school. In addition to the psychometric properties of the test, differences were investigated regarding school, school year, sex and involvement in structured and unstructured extracurricular activities. The EEAEC presented adequate psychometric indexes with a Kaiser-Meyer-Olkin index equal to 0.64 and significant Bartlett's sphericity test. Factor analysis pointed to the presence of three factors. Differences ( $p < 0.050$ ) were found in the comparison by sex, in the first and third factors. Boys play more than girls, as they become more involved with academic/responsible activities. Scale is useful in assessing the involvement of children in extracurricular activities.

**Key words:** extracurricular activities, scale, bioecological theory of human development, factorial analysis

**Resumo:** O artigo apresenta o processo de elaboração da Escala de Envolvimento em Atividades Extracurriculares para Crianças (EEAEC). A primeira versão do instrumento foi aplicada a 178 estudantes, de ambos os sexos, de duas escolas públicas de uma cidade do estado de Minas Gerais (Brasil), com idades de 8 a 12 anos, cursando o 4º, 5º e 6º anos do ensino fundamental. Além das propriedades psicométricas do teste, foram investigadas as diferenças relativas à escola, ao ano escolar, ao sexo e no envolvimento em atividades extracurriculares estruturadas e desestruturadas. A EEAEC apresentou índices psicométricos adequados, com índice *Kaiser-Meyer-Olkin* igual a 0,64 e teste de esfericidade de *Bartlett* significativo. A análise fatorial apontou a presença de três fatores. Foram identificadas diferenças ( $p < 0.050$ ), na comparação por sexo, no primeiro e no terceiro fatores. Os meninos brincam mais do que as meninas, enquanto elas se envolvem mais com atividades acadêmicas/responsáveis. A escala é útil na apuração do envolvimento de crianças em atividades extracurriculares.

**Palavras chave:** atividades extracurriculares, escala, teoria bioecológica do desenvolvimento humano, análise fatorial

**Resumen:** El artículo presenta el proceso de elaboración de la escala de participación en actividades extracurriculares para niños (EPAEN). La primera versión del instrumento fue aplicada a 178 estudiantes de ambos sexos de dos escuelas públicas de una ciudad de Minas Gerais (Brasil), de 8 a 12 años de edad, que cursing al 4º, 5º y 6º año de la escuela primaria. Además de las propiedades psicométricas de la prueba se investigaron las diferencias relativas a la escuela, al año escolar, al sexo y participación en actividades extracurriculares estructuradas y no estructuradas. La EPAEN presentó índices psicométricos adecuados con índice *Kaiser-Meyer-Olkin* igual a 0,64 y prueba de esfericidad de *Bartlett* significativa. El análisis factorial apuntó la presencia de tres factores. Se identificaron diferencias ( $p < 0.050$ ), en la comparación por sexo, en el primer y tercer factores. Los niños juegan más que las niñas, mientras que se involucran más con actividades académicas/responsables. La escala es útil en el análisis de la participación de niños en actividades extracurriculares.



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**Palabras clave:** actividades extracurriculares, escala, teoría bioecológica de desarrollo humano, análisis factorial

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## Introduction

Childhood changed over time (Ariés, 2012). Children's activities overcame family and school limits to reach different contexts. That is due to the development of public policies by means of social projects and actions to lengthen the school day (Glória, 2016; Souza, 2017) and to allow for insertion in specialized language, computer, sport and music courses, among others (Osti, 2016). It means to say that children are not only dedicated to games and school activities. The causes of that change lie with the need for a safe place where children can stay while their parents work (Matias, 2018; Schimonek, 2015), with the family's social and economic possibility to enroll then in specialized classes (Brandão & Lellis, 2003; Glória, 2016; Mahoney & Vest, 2012; Quaresma, 2015) and with educational systems' initiatives (Brazil, 2016). Thus, children are immersed in several extracurricular activities in different contexts and divided into two kinds.

The first one refers to unstructured activities consisting in free actions such as surfing the internet and watching videos, watching television, playing video games, playing or simply not doing anything (Marturano, 2006; Senkevics & Carvalho, 2015). Most of the times those activities are performed at home, in parks, care and entertainment places, and on the street. The second type refers to the ones that are linked to structured activities developed along the week in which planning and regularity are observed

such as music, dance and sports classes (Carvalho, Loges & Senkevics, 2016; Carvalho, Senkevics, & Loges, 2016; Osti, 2016; Quaresma, 2016; Souza, Bandeira, Valentini, Ramalho & Carvalhal, 2016). Actions having that format are used in schools and/or full-time projects such as *Programa Novo Mais Educação* (Brazil, 2016).

Even counting as educational tasks, activities within those programs that are linked to the fields of arts, sports, culture and entertainment are extracurricular once they are seen as complementary and they are offered is disconnection with the schools' political and pedagogical project (Schimonek, 2015; Brazil, 2016). That disarticulation does not mean a lack of interferences in the educational process. On the contrary: positive implications of those activities on the peers (Shernoff, 2010), on the social, emotional and physical development (Molinuevo, Bonillo, Pardo, Doval, & Torrubia 2010; Souza et al., 2016) are observed.

Positive influences happen due to the offer of activities that go from simple to more complex tasks and also by means of interactions between children, their peers and educators (Dayrell & Geder, 2015; Mahoney, 2000). Structured extracurricular activities complement the roles of the family and the school, thus increasing the students' cultural capital (Silva & Ehrenberg, 2017). The effects of those actions are not limited to the structured ones because both types contain *proximal processes* that act as engines in human development (Bronfenbrenner &

Evans, 2000). Understanding those influences and the involvement of children in those activities leads to the adoption of a bioecological perspective of human development (Bronfenbrenner & Morris, 2006; Durlak, Mahoney, Bohnert, & Parente, 2010; Mahoney, Lord, & Carryl, 2005).

Researching issues related to activities during childhood in different contexts is relevant for the identification of eventual interferences that may push or create barriers to child development. For that matter, studies on what children do in addition to going to school add information on the several aspects of their lives and foment programs aimed at that audience. The subject is gaining distinction in Brazil with the implementation of full-time schools (Glória, 2016; Souza, 2017) and also at other levels (Lopes, Oliveira, Fátima, & Nunomura, 2016; Matias, 2018; Osti, 2016; Silva & Ehrenberg, 2017; Souza et al., 2016).

Despite the growing interest on the subject, the investigation of extracurricular activities is challenging due to three issues. The first one regards the limitation over the identification of what children do outside school when they are not into structured extracurricular activities developed by public or private institutions. In general, studies are centered in the participation or not in extracurricular or full-time education programs (Machado, Cassep-Borges, Dell'Aglio & Koller, 2007; Osti, 2016; Soares, Riani, Nóbrega, & Silva, 2014). There is a shortage of instruments and methodologies to access the content, organization and development of those actions, as well as the implications of that participation. Finally, in the Brazilian context and as the third issue, there is the lack of tools to survey the level of involvement and what activities are carried out by the child audience both in terms of unstructured and structured extracurricular activities.

This study aims at finding solutions for those challenges. More precisely, the objectives of this paper were the development of a self-report instrument to define the involvement in extracurricular activities and the psychometric analysis of that tool in what

concerns validity evidences (factorial structure) and accuracy (internal consistency). In addition to that, the differences related to the involvement in extracurricular activities regarding the schools, the participation in unstructured and structured extracurricular activities, the gender and the school year were investigated.

## Method

### *Participants*

The study sample was formed by 178 students coming from two public schools in a large size city in the state of Minas Gerais. Out of those, 76 (42.70%) were boys and 102 (57.30%) were girls. They were elementary school I in the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> years of school. Participants' ages varied between 8 and 12 years old, with an average of 10.40 (DP = 0.78).

### *Development of the Scale of Involvement in Extracurricular Activities for Children (SIEAC)*

SIEAC items were developed in two stages. The first one consisted in a bibliographic survey regarding papers in journals linked to data bases (*Scientific Electronic Library Online*, *Periódicos Eletrônicos em Psicologia e Portal de Periódicos da Coordenação de Aperfeiçoamento de Nível Superior – Capes*) on studies that investigated aspects of extracurricular activities in the Brazilian context. Here, it was possible to notice that the field is still little explored in the country, supporting studies that reviewed the literature on the subject (Matias, 2009; Castanho & Mancini, 2016). In addition to the journals, books on the playing itself, on non-formal education and releases related to full time programs, to assistance to children and teenagers and to the activities carried out by those audiences outside the school were consulted (Carvalho, Senkevics, & Lages, 2014; Carneiro & Dodge, 2007; Cenpec, 2002; 2005; 2007; Moura & Zuchetti, 2006; Belo

Horizonte City Hall [PBH], 2000; Pontifical Catholic University of the State of Minas Gerais & State Secretariat for Social Development and Sports, 2006; Zuchetti, Moura & Menezes, 2010; Zamberlan, Ottoni & Sônego, 2005). In the second stage, the objective was to survey information on what children do when they are not in school. That started from consultations with experts connected to Non-Governmental Organizations (NGOs) and working with children and adolescents, with professors and students in elementary school.

After those surveys, it was possible to notice that children are divided into two groups: the first one consists of participants in structured extracurricular activities and the other one, of non-participants. In what concerns the first one, children are linked to programs to extend the school day, to academic actions and to projects developed by public or private schools and by social institutions where sport, artistic, cultural and pedagogical support activities are offered (Brazil, 2016; Dayrell & Geber, 2015; Krebs et al., 2011; Leite & Carvalho, 2016; Lopes, et al., 2016; Souza et al., 2016). Those who do not take part in those activities stay at home most of the times with a guardian and watch television, play video games, among other activities. In both groups, free activities are performed at home. Besides, children go to parks, cinemas and churches.

The survey on the involvement in extracurricular activities is adjusted to the bioecological perspective of human development (Bronfenbrenner & Morris, 2006) and that is the theoretical bases of the instrument. That theory has four dimensions: Process, Person, Context and Time. The articulation with those aspects in the instrument<sup>1</sup> took place as follows.

In the header, the *person* dimension was addressed when the name, gender, birth date, age and schooling were verified. The *context* was approached when information was requested on *microcontexts* the participant

attends such as the name of the school, of the project in which the child takes part, if that may be the case, or where and with whom the child is when not in the teaching institution. There is also space for the date when the form was filled out and the time when the child goes to school.

Still in regards to the *context* dimension, item development aimed at surveying data on activities belonging to the family *microcontext* (for example, I help doing the dishes), NGOs (for example, I take a computer course), projects (for example, I take art classes), schools (for example, I take dance classes) and pedagogical support centers (for example, I get school tutoring). Thus, aspects related to free actions, to doing housework, to participation in projects and specialized classes, to entertainment and to academic activities were addressed. Despite the curricular connection, homework was in the scale because many social projects and pedagogical support centers include help doing homework as an activity offered to students.

The *process* dimension was addressed in the items related to the actions that have *proximal processes* (for example, I practice martial arts). Finally, *time* is in the indication by the students of the frequency with which the activities are performed. Thus, the 32 statements that should be responded from a three-point *Likert* scale (1 never, 2 sometimes and 3 always) were presented after the header. That scale model was chosen for its easiness, bearing in mind child audience. As the instrument had 32 questions and answering time is proportional to the number of options, that number of alternatives decreases filling time (Lucian & Dornelas, 2015; Vieira & Dalmoro, 2008; Rodrigues, 2005). The items of the first version of the scale are on table 1.

<sup>1</sup> The original scale is available by e-mail: neyfsom@ufsj.edu.br

Table 1.  
*Items in the Scale of Involvement in Extracurricular Activities for Children*

1. I play at home.	17. I play on the street.
2. I take care of my younger sibling.	18. I listen to music.
3. I play video games.	19. I help doing the dishes.
4. I take computer classes.	20. I study at home.
5. I go to the cinema and the theater.	21. I go to the park.
6. I play with friends before school.	22. I take music classes.
7. I take dance classes.	23. I practice martial arts (jiu-jitsu, judo, capoeira).
8. I play with friends after school.	24. I go to my mother's workplace.
9. I do homework.	25. I take art classes.
10. I play with toys.	26. I tidy my house.
11. I read books and comics.	27. I get school tutoring.
12. I take theater classes.	28. I help my father at work.
13. I use the computer to play and chat.	29. I stay at home by myself.
14. I go to church.	30. I go to my father's workplace.
15. I ride a bike, I rollerblade.	31. I play soccer.
16. I watch TV.	32. I do computer research.

### ***Procedures***

Institutions were chosen for the study according to convenience criteria and to the fact that they should offer extracurricular activities connected to full-time education programs. That condition was defined in order to verify the hypothesis that there would be different levels of involvement in extracurricular activities between students participating or not in structured activities. As there was an opportunity for the students to attend to those activities in school, the investigation was possible. The proposal was presented to the school principals and they agreed to it by signing the term of consent for the development of the study. After that and after the objectives of the research were presented in the classrooms, the students were invited to participate. Those who agreed, received the Term of Free and Clarified Consent (TFCC). The children and their respective guardians signed the TFCC. Data collection started after those signatures. The project was approved by an ethics committee.

The instrument was applied to groups of 7 to 10 participants in spaces made

available by the school and free of external interferences. It was led by the author of the study with the help of an assistant. Instructions on how to fill out the scale were given orally and an example with the corresponding figures was written on the blackboard. The following instructions were given for the answers on the Likert scale:

*“This questionnaire is about what students do when they are not at school from Monday to Friday. First of all, we would like to know where you are. You are going to write what you do and who is responsible for you. For example, if you take part in a project, write its name; if you stay at home, write I stay at home with my mother or someone else. After that, you are going to notice that on the sheet of paper you received there is a sentence on the top “When I am not at school...” and then there are several sentences below it. You are going to read the sentence on the top and complete with the ones that are below it and mark one of the options in front according to what you do. For example: when I am not at school, I go to the park. You are going to mark (1) never, (2) sometimes, (3) always. Each one of you is going to answer on his or her own*

*sheet of paper and remember there is no right or wrong answer. What is important for us is to know how often you do the things on the sheet of paper. Whenever you have questions, raise your hands and we will help you”.*

### **Data analysis**

After the scale was applied, data was entered into spreadsheets in the Microsoft Excel 2010 program. Then, the frequencies of the answers were investigated in order to verify the existence of missing information. As a whole, items filled out corresponded to more than 90% and missing data was replaced by its average. In case any participant failed to answer more than 10% of the questions, he or she would be excluded from the sample. However, that did not happen.

Next, an exploratory factorial analysis was performed by means of the *Unweighted Least Squares* (ULS) estimator using polychoric correlation matrices due to the ordinal characteristics of the Likert (Asún, Rdz-Navarro, & Alvarado, 2015) type scale. Factor retention resulted from parallel analysis with the exchange of empirical data (Damásio, 2012; Timmerman & Lorenzo-Seva, 2011). The internal consistency of the instrument was investigated through the calculation of the *Cronbach alpha* and the relationships between the factors were surveyed using the Spearman correlation.

After the instrument's psychometric analyses, the U de Mann-Whitney test spotted differences among the participants divided per gender, school and kind of extracurricular activity (structured and unstructured). The discrepancy investigation regarding schooling used the Kruskal Wallis test. The analyses were performed using two statistics programs:

Factor 10.5.02 (Lorenzo-Seva & Ferrando, 2013) and Statistical Package for the Social Sciences (SPSS), version 19.

### **Results**

#### ***SIEAC's exploratory factorial analyses***

SIEAC's initial version encompassed 32 items addressing structured and unstructured activities. Initially, using the resources in the Factor 10.5.02 software (Lorenzo-Seva & Ferrando, 2013), the exploratory factorial analysis was performed without defining the numbers related to the factors to be retained. The Kaiser-Meyer-Olkin (KMO) rate was equals to 0.62. The Bartlett sphericity test was significant ( $X^2 = 1156.60; gl=496 p<0.001$ ), which showed the suitability of the correlation matrix to the factorial analysis. From then, analyses were performed considering five, four and three factors. After each result, the items that had no conceptual adherence with the constructs formed were removed. The program excluded three items showing factorial load  $< 0.30$ . Thereby, nine questions were eliminated.

The conceptually more coherent analysis was the one that had a tridimensional structure and, from the random distribution of self-values, the scores indicated that the variance explained by the percentage of 95 was overcome. The Kaiser-Meyer-Olkin (KMO) rate was equals to 0.64. The Bartlett sphericity test was significant ( $X^2 = 810.40; gl=276 p<0.001$ ). As presented on Table 2, the first version of the SIEAC has 23 items divided into three factors.

Table 2  
*Factorial loads, explained variance and Cronbach alphas for SIEAC's scores*

Items	Factorial loads		
	F1	F2	F3
03. I play video games.	0.778		
31. I play soccer.	0.564		
13. I use the computer to play and chat.	0.512		
17. I play on the street.	0.435		
06. I play with friends before school.	0.425		
21. I go to the park.	0.412		
05. I go to the cinema and the theater.	0.351		
08. I play with friends after school.	0.336		
15. I ride a bike, I rollerblade.	0.332		
16. I watch TV.	0.306		
04. I take computer classes.		0.749	
07. I take dance classes.		0.637	
12. I take theater classes.		0.633	
22. I take music classes.		0.482	
23. I practice martial arts (jiu-jitsu, judo, capoeira).		0.469	
25. I take art classes.		0.458	
26. I tidy my house.			0.665
19. I help doing the dishes.			0.629
11. I read books and comics.			0.576
20. I study at home.			0.567
18. I listen to music.			0.526
09. I do homework.			0.521
32. I do computer research.			0.448
Explained Variance	17.15	30.19	38.89
Cronbach Alpha	0.67	0.63	0.69

*Note:* SIEAC = Scale of Involvement in Extracurricular Activities for Children

The results of the Cronbach Alpha analyses, a measure used to assess internal consistency, for factors 1, 2 and 3 were, respectively, 0.67, 0.63 and 0.69. Regarding the total for SIEAC items, alpha value was 0.72. The analysis of the correlation between the factors showed weak association between Factor 1 and Factor 2 ( $r = 0.33$ ;  $p = 0.01$ ). However, between factors 1, 2 and 3 and the total for the scale, the correlations varied from strong to moderate ( $p < 0.001$ ) and the scores were, respectively, 0.76, 0.66 and 0.57.

#### ***Differences regarding sex, schooling, school of origin and extracurricular activities frequented by the students***

Significant differences were spotted by the U de Mann-Whitney test between participants according to gender and school. Boys had higher scores for Factor 1 ( $p < 0.001$ ) and girls outstood in Factor 3 ( $p =$

0.003). In order to check the influence of the school on that result, another analysis was performed to compare participants divided by gender in the teaching institutions of origin. At municipal school 2 (MS 2), the same differences as the ones seen in the entire sample for Factors 1 ( $p < 0.001$ ) and 2 ( $p = 0.005$ ) were spotted. At municipal school 1 (MS 1), there only was significance for Factor 1 ( $p = 0.002$ ), with boys getting higher scores. There was no significant difference between participants divided per schooling for Factor 1 ( $p = 0.342$ ), Factor 2 ( $p = 0.437$ ), Factor 3 ( $p = 0.576$ ) and SIEAC's total ( $p = 0.451$ ). In what refers to the analyses per school, MS 1 presented higher scores for Factor 2 comparing to MS 2 ( $p = 0.021$ ). For the Mann-Whitney test results, the medians, averages, standard deviations and percentages for the two teaching institutions are shown on Table 3.

Table 3.  
Average, standard deviations and percentages for SIEAC scores at schools 1 and 2.

SIEAC	School	Md	Average (SD)	Percentages			Test <i>U</i>	<i>P</i>
				25	50	75		
F 1	MS 1	20.00	20.41	18.00	20.00	23.00	3363.500	0.349
	MS 2	21.00	(3.27) 20.98 (3.69)	19.00	21.00	23.00		
F 2	MS 1	10.00	10.02	7.50	10.00	12.00	2913.00	0.021
	MS 2	8.54	(3.10) 8.86 (2.17)	7.00	8.54	10.00		
F 3	MS 1	17.00	17.05	15.00	17.00	19.00	3360.00	0.343
	MS 2	17.00	(2.67) 16.61 (2.74)	14.50	17.00	19.00		
Total	MS 1	48.00	47.49	44.00	48.00	52.00	3282.500	0.238
	MS 2	46.00	(5.95) 46.46 (6.05)	41.60	46.00	51.00		

Note: SIEAC = Scale of Involvement in Extracurricular Activities for Children. Md = Median. SD = Standard deviations. MS = Municipal School. The standard deviations are between parentheses.

The definition of the activities attended by the students and described by them on the SIEAC answer sheet showed that there are two groups. The first one consists of those who do not attend structured activities and the second one, of students connected to those activities. In that group, the ones performed regularly were listed, as well as the scheduled days, times and places. The frequency of actions to lengthen the school day developed by schools, projects offered by NGOs and specialized classes such as soccer, dance or martial arts (jiu-jitsu, capoeira, karate) schools was observed. Then, the students were divided into two groups: 1) Non-participants in structured

activities (n=73) and 2) Participants in structured activities (n=105). The students in group 1 said they stayed at home or at a relative's home (for example, grandmother's home) under the responsibility of an adult, the mother, most of the times. Significant differences were found when comparing those groups in what regards Factor 2 ( $p < 0.001$ ) and total SIEAC ( $p = 0.005$ ). Students linked to structured activities reached higher scores. Table 4 describes medians, averages, standard deviations, results of the *U de Mann-Whitney* tests and participants' *p* values divided per extracurricular activities.

Table 4.  
Average, standard deviations and percentages for SIEAC's scores in groups divided per extracurricular activity.

SIEAC	Extracurricular Activity	Md	Average (SD)	U Test	P
F1	Unstructured	20.00	20.58 (3.67)	3470.500	0.305
	Structured	21.00	20.91 (3.47)		
F2	Unstructured	8.00	8.08 (2.04)	2033.500	< 0.001
	Structured	10.09	10.09 (2.63)		
F3	Unstructured	17.00	16.62 (2.73)	3591.000	0.503
	Structured	17.00	16.97 (2.72)		
Total	Unstructured	45.04	45.29 (5.94)	2863.000	0.005
	Structured	48.41	47.88 (5.87)		

Note: SIEAC = Scale of Involvement in Extracurricular Activities. Md = Median. DP = Standard deviations. Standard deviations are between parentheses.



## Discussion

This study aimed at developing a self-report scale on involvement in extracurricular activities and at developing their psychometric properties. More specifically, the objective was the preparation of an instrument that offered information on what children do when they are not at school during the week based on the bioecological theory (Bronfenbrenner & Morris, 2006). The exploratory factorial analysis resulted in a tridimensional structure of the test in a total of 23 items. The semantic analysis of the items suggests the first factor as *unstructured activities*. This construct consisted of 10 items corresponding to 17.15% of the scale variance. Six items were retained in the second one, which correspond to 30.19% of the variance of the instrument called *structured activities*. Finally, the third factor with seven items that explains 38.89% of the variance and called *academic/responsible activities*. In the investigation of differences between the participants, it was seen that boys are more involved in recreational activities than girls. Girls are more connected to academic/responsible activities. There were still discrepancies in the comparisons between participants divided per type of activity attended to. Those results have relevant aspects to be debated.

As foreseen in the instrument development, it was noticed that children did several kinds of activities outside school, showing that childhood activities are not restricted to school and the family context anymore. The factorial structure seen in the analyses points at three kinds of activity. The first one refers to the ones connected to playing and entertainment, which corresponds to the first factor *unstructured activities*. Those activities are performed in the family, leisure place, recreation *microcontexts* and on the street. The item “soccer match” draws attention in the game group. It was expected that this sport would join the items in the second factor. This is an action that is offered in specialized classes and in activities to lengthen the school day (Brazil, 2016;

Schimonek, 2015). This result is due to the fact that playing ball is related to leisure activities, especially of boys who use the street space and improvised fields for this game (Carvalho, Senkevics, & Loges, 2014).

The study sample was in the childhood period and playing is the main activity during that stage of human development (Boyd & Bee, 2010). However, it was noticeable that boys played more than girls. That difference is explained by the way boys are socialized. They are given more freedom than girls in the sense that they were raised more freely and can occupy public spaces. That issue is clear in the retention of the items that refer to the activities related to the street *microcontext*: “I play on the street” and “I ride a bicycle, I rollerblade”. In addition to those, the items “I play video games”, I play before and after school indicate possible actions for boys because they have no responsibilities regarding help taking care of the house (Carvalho, et al., 2014; Senkevics & Carvalho, 2015).

The factor *structured activities* addresses actions that may be offered in *microcontexts* such as social institutions, programs to lengthen the school day or private organizations (Brazil, 2016; Dayrell & Geber, 2015; Krebs et al., 2011; Leite & Carvalho, 2016; Lopes, et al., 2016; Osti, 2016; Souza et al., 2016). Those are the second type of activity. It includes items regarding specialized classes such as computer, dance and theater repeatedly used in the school day lengthening strategies (Brazil, 2016; Glória, 2016). Not by chance, in the analysis of participants divided by frequency attending structured and unstructured extracurricular activities, the first ones outstand with higher scores in factor 2. That result is also encountered in the comparison related to the total scale score, which confirms the hypothesis that there is a difference in the level of involvement between children participating or not in structured actions.

Connection to school day lengthening projects and attendance to soccer, martial arts and dance schools, among others, allowed for contact with activities that may positively

interfere in school performance (Osti, 2016; Soares, Riani et al., 2014) and motor skills (Souza et. al., 2016). It was not possible to have access to the characteristics related to the development and organization of the structured activities listed by participants neither to the implications of that participation and those were some of the limitations of the study. However, the frequency of those actions has positive effects due to the presence of proximal processes that interfere in students' personal characteristics (Bronfenbrenner & Evans, 2000; Bronfenbrenner & Morris, 2005). Thus, it is possible to bring up the hypothesis that, in future studies, the instrument points at a relationship between that factor and child development.

The third type of action was approached in the factor called *academic/responsible activities*, which is a construct with items related to school tasks and helping at home. The items retained in this factor belong to the family microcontext. The comparison analyses between the participants divided by gender showed that girls are more involved in those actions. That may happen due to gender issues, since activities such as helping tidy the house or even responsibility in maintaining the house are delegated to girls (Campos, Tilio, & Crema, 2017; Senkevicks & Carvalho, 2015).

In addition to that, girls value more extracurricular activities that are similar to school actions. That is a consequence of the education received by them at home (Carvalho et al., 2016). Not by chance, girls have better performance at school when compared to boys and that is a result of the trend that they are "confined to the domestic environment" (Senkevicks & Carvalho, 2015, p. 963). That fact leads "girls to perceive school in a more positive way as a space for sociability, freedom, personal fulfillment and even leisure" (Carvalho, et al., 2014, p. 726). That issue also explains the difference between participants divided by gender in the first and third factors.

The explained variance levels and the magnitude of the factorial loads showed

validity evidences that were acceptable for SIEAC (Pasquali, 2011). Accuracy due to internal consistency for the total sample indicated good value for the Cronbach alpha (0.72). Regarding the Cronbach alphas for the three factors, it is possible to say that the low scores – unstructured activities = 0.67; structured activities = 0.63; academic/responsible = 0.69 – may be attributed to the number of items in each factor, respectively, 10, 6 and 7. The definition of the internal consistency calculated for the items indicated that they are suitable to check what each factor proposes once values exceed the minimum of 0.30 and most got levels above 0.40.

### Final Considerations

The researches on what children do outside school from participating in structured and unstructured extracurricular activities to attending school day lengthening programs lack instruments. Especially focusing on childhood having access to involvement in several actions. SIEAC fills out that blank and presents itself as a self-report instrument that is useful and easily applied in surveys, educational assessments and clinics. It is important to remember that this kind of scale deals with individuals' perception over the aspects that were investigated and not necessarily measures the phenomenon itself. The lack of more accurate information on the presence to structured activities, on the family environment and on other contexts pointed out by participants is a limitation of the study. That information would be useful and could complement data. That should be approached in other applications of the instrument.

Considering those items of information, other researches are necessary in order to verify the correlation between students' perception and the opinion of people in charge of their activities. The use of the test in different regions is extremely important to check factor maintenance. It is a promising instrument in the investigation of associations between the level of involvement in

extracurricular activities and other constructs such as school performance, stress levels, life satisfaction and resources in the family environment. Comparison studies between students in public and private schools are relevant. Specifically with students in private schools, the scale may contribute to the investigation of hypotheses such as the excessive number of activities performed by those students (Mahoney & Vest, 2012).

Test improvement should include items related to social media, the use of tablets and smartphones, access to platforms such as Facebook and Instagram, among others. In future investigations, it is necessary to perform a confirmatory factorial analysis to identify adjustment to empirical data. The expectation is that the instrument is useful in researches, educational evaluations and clinics.

#### Authors' participation:

a) Conception and design of the work; b) Data acquisition; c) Analysis and interpretation of data; d) Writing of the manuscript; e) Critical review of the manuscript.

N. C. F. M. has contributed in a,b,c,d, e.

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