



Paidéia (Ribeirão Preto)

ISSN: 0103-863X

ISSN: 1982-4327

Universidade de São Paulo, Faculdade de Filosofia
Ciências e Letras de Ribeirão Preto, Programa de Pós-
Graduação em Psicologia

Assis-Fernandes, Rafaela Pires; Bolsoni-Silva, Alessandra Turini
Educational Social Skills and Repertoire of Children Differentiated by Behavior and Sex
Paidéia (Ribeirão Preto), vol. 30, e3015, 2020
Universidade de São Paulo, Faculdade de Filosofia Ciências e Letras
de Ribeirão Preto, Programa de Pós-Graduação em Psicologia

DOI: 10.1590/1982-4327e3015

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Educational Social Skills and Repertoire of Children Differentiated by Behavior and Sex

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Abstract: Our study sought to compare mothers' behavioral repertoire (educational social skills and negative practices) and maternal anxiety and depression indicators with children's behaviors (behavior problems and social skills), by assessing the variables "sex" (boys and girls) and "occurrence of behavior problems". The sample consisted of 20 children with behavior problems (clinical group), 20 without behavior problems (non-clinical group), their mothers and teachers. Reporting instruments were used with teachers and mothers and comparative analyzes were conducted between groups. The results indicated that the clinical group had higher rates of behavior problems and maternal depressive symptoms, whereas the non-clinical group showed more child social and educational social skills. Sex did not differ between groups. We concluded that maternal educational practices are more influenced by children's behaviors than by their sex.

Keywords: social skills, behavioral disorders, anxiety, depression, sex

Habilidades Sociais Educativas e Repertório de Crianças Diferenciadas Por Comportamento e Sexo

Resumo: Este estudo objetivou comparar repertório comportamental de mães (habilidades sociais educativas e práticas negativas), indicadores de ansiedade e depressão maternos e comportamentos de crianças (problemas de comportamento e habilidades sociais), controlando as variáveis sexo (meninos e meninas) e ocorrência de problemas de comportamento. A amostra foi composta por 20 crianças com problemas de comportamento (grupo clínico), 20 sem problemas de comportamento (grupo não clínico), suas mães e professores. Foram utilizados instrumentos de relato com professores e mães e conduzidas análises comparativas entre os grupos. Os resultados indicaram que o grupo clínico apresentou maiores taxas em problemas de comportamento e sintomas de depressão materna, enquanto o grupo não clínico apresentou mais habilidades sociais infantis e habilidades sociais educativas. O sexo não diferenciou os grupos. Conclui-se que as práticas educativas maternas são mais influenciadas pelos comportamentos das crianças do que pelo sexo delas.

Palavras-chave: habilidades sociais, distúrbios do comportamento, ansiedade, depressão, sexo

Habilidades Sociales Educativas y Repertorio de Niños Diferenciados por Comportamiento y Sexo

Resumen: Este estudio tuvo como objetivo comparar el repertorio conductual de madres (habilidades sociales educativas y prácticas negativas), los indicadores de ansiedad y depresión maternos y los comportamientos de los niños (problemas del comportamiento y habilidades sociales) diferenciados por las variables sexo (niños y niñas) y la aparición de problemas del comportamiento. La muestra consistió en 20 niños con problemas del comportamiento (grupo clínico), 20 niños sin problemas del comportamiento (grupo no clínico), sus madres y maestros. Se utilizaron instrumentos de informe con maestros y madres y se realizaron análisis comparativos entre grupos. Los resultados indicaron que el grupo clínico tenía tasas más altas de problemas del comportamiento y síntomas de depresión materna, mientras que el grupo no clínico tenía más habilidades sociales infantiles y habilidades sociales educativas. El sexo no se diferenció en los grupos. Se concluye que las prácticas educativas maternas están más influenciadas por los comportamientos de los niños que por el sexo de los mismos.

Palabras clave: habilidades sociales, trastornos de la conducta, ansiedad, depresión, sexo

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Article derived from the master's thesis of the first author under the supervision of the second, defended in 2017, in the Graduate Program in Psychology of Development and Learning at the Faculty of Sciences, Universidade Estadual Paulista, *campus* Bauru.

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The interaction between parents and children is very important, since it favors skillful behaviors or indicate behavioral problems (Bolsoni-Silva, Loureiro, & Marturano, 2016). As the child's first socialization agents, parents use several strategies to influence their children's behaviors, named by Gomide (2014) as "educational practices", which can both enable child development, the "positive practices", and be harmful to child

development, identified as “negative practices”. Bolsoni-Silva, Loureiro et al. (2016) proposed the study of social educational skills (*habilidades sociais educativas parentais* - hse-p), which can be divided into three behavioral classes: expression of feelings and coping, communication and establishment of limits.

In this line of research, studies have shown that more skilled parents are more able to provide their children with behavioral models to encourage new socially-skilled behaviors when setting limits and being responsive to their children’s needs. On the other hand, parents with less hse-p may provide inappropriate models, have low consistency, reinforce problematic behaviors and are more aggressive when controlling their children’s behaviors (Fantinato & Cia, 2015; Van Vugt, Deković, Prinzie, Stams, & Asscher, 2013). In addition to the scientific relevance, the study of parent-child interactions has social relevance, since the greater the description of related variables, the greater the chance of acting preventively, promoting social competence and reducing risks for child development.

Considering the mother as an important educational agent, assessing maternal mental health (depression and anxiety) becomes even more relevant. Children that live with mothers with a history of depression tend to have higher levels of school and behavior problems, lower self-esteem and less social competence (Mian, Tango, Lopes, & Loureiro, 2009). Based on a literature review, Alvarenga, Oliveira and Lins (2012) concluded that maternal depression is a risk factor for child development, negatively affecting school-aged children. Moreover, maternal depression is evidently associated with the use of negative educational practices (Rakow et al., 2009). Maternal anxiety is also described as a risk factor for child development, since it can interfere with the responsiveness and quality of mother’s care towards the baby (Airosa & Silva, 2013). On the other hand, positive results of maternal anxiety were found in children’s cognitive development associated with the fact that the anxious mother is more alert and active in interactions with her babies (Fraga, Linhares, Carvalho, & Martinez, 2008). Most of the studies addressed the symptoms of anxiety in mothers in the pre and/or post-natal periods (Morais et al., 2017; Rodrigues & Nogueira, 2016) and separation anxiety of mothers of children in early school age, with effects on the quality of socialization (Veríssimo, Alves, Monteiro, & Oliveira, 2003). To the best of our knowledge, no studies that evaluated the maternal anxiety of school-aged children were found, justifying studies in this direction.

Regarding children’s behaviors associated with sex, some studies (Mariano & Bolsoni-Silva, 2016; Pizato, Marturano, & Fontaine, 2014) affirmed that girls had higher scores for social skills and lower for externalizing behavior problems, despite having a higher prevalence of internalizing problems when compared with boys. However, other studies did not find the influence of sex on children’s behavior (Martín, Granero, & Ezpeleta, 2014; Massola & Silveiras, 2005), which indicates the need for further investigations to verify the influence of sex on behavior and social skills problems in schoolchildren.

Another line of research approaches the influence of sex on how parents use parenting practices. According to Trad

(1999), parents would maintain different rules in education, such as boys being raised so as not to show their feelings, while girls have more permission to express emotions. Sampaio and Vieira (2010) stated that parents seem to prefer children of the same sex. Wright et al. (2013) found a difference in parental tolerance, with fathers being more tolerant of boys’ behavior problems, whereas mothers were equally tolerant of boys and girls’ behaviors. Based on these findings, it is difficult to say if parenting practices towards boys and girls are influenced by children behavior or sex.

We identify some deficiencies in the aforementioned studies due to the different results when verifying the influence of the variable “sex”, especially regarding children’s behavior. Moreover, most of the studies referred to care services were conducted in children and not in the general population. Additionally, deficiencies regarding the methodology are also identified, considering that most of the available studies that compared the variable “sex” did not equally assess the presence and absence of behavior problems (Massola & Silveiras, 2005); also, they did not include the same number of boys and girls (Bueno, Grossi, Santos, Silva, & Moura, 2011). Furthermore, most of these studies used only one source of information, either the teacher (Mariano & Bolsoni-Silva, 2016; Pizato et al., 2014), or the parents (Bueno et al., 2011). Thus, our study approaches these deficiencies, raising the hypothesis that parenting practices could differ more due to child’s behavior than to the child’s sex.

Therefore, we observed that several variables influencing children’s behaviors need to be addressed. Thus, our study adopted a case-control design to assess the variables “sex” and “occurrence of behavioral problems”, having as outcome variables the hse-p, negative practices, maternal mental health (anxiety and depression), complaints of behavioral problems and children’s social skills.

Method

Participants

Forty children participated in our study, 20 with diagnostic indicators of behavior problems (clinical group, composed of 10 girls and 10 boys), 20 without indicators of behavior problems (non-clinical group, composed of 10 girls and 10 boys), their mothers and 36 teachers (32 females and four males). The sample was of convenience, whose criteria were: being biological mothers; child with a clinical or borderline behavior through the evaluation of teachers and mothers in at least one of the scales, namely internalizing, externalizing and/or total (Teacher’s Report Form – TRF, and Child Behavior Checklist – CBCL – Achenbach & Rescorla, 2001) to compose the clinical group, and child without any of these behaviors to the non-clinical group.

Children’s age ranged between six and 11 years old, with a general average of 8.3 years old ($SD = 1.6$). The clinical and non-clinical groups had the same average age, 8.3 years old ($SD = 1.6$), with $p = 1.000$ (Chi-square test). The average for the group of girls was 9.1 years old ($SD = 1.4$), whereas the

average for the group of boys was 7.6 years old ($SD = 1.4$), with $p = 0.057$. Regarding schooling, children attended between the 1st and 5th grades of elementary school. In the clinical group, the distribution was: children attending the 1st year (4), 2nd year (2), 3rd year (6), 4th year (3) and 5th year (5); the non-clinical group had the following configuration: 1st year (5), 2nd year (2), 3rd year (6), 4th year (2) and 5th year (5). Mothers were aged between 26 and 48 years, with a general average of 34.7 years ($SD = 5.7$), with no statistical differences in the comparison of groups: clinical and non-clinical ($\chi^2 = 0.000$; $p = 1.000$); boys and girls ($\chi^2 = 0.404$; $p = 0.525$). Regarding maternal education, 19 mothers (47.5%) had up to eight years of study, and 21 mothers (52.5%) studied over eight years, with no statistical differences between the groups: clinical and non-clinical ($\chi^2 = 0.902$; $p = 0.342$); boys and girls ($\chi^2 = 0.100$; $p = 0.752$). Regarding mother's work activities, the groups of mothers were also equivalent; 30 mothers worked (75%) and 10 did not work (25%), with an equal distribution between the groups: clinical and non-clinical ($\chi^2 = 0.000$; $p = 1.000$); boys and girls ($\chi^2 = 0.533$; $p = 0.465$). Among mothers, 26 mothers reported an income between 1 and 2 minimum wages (65%), whereas 14 mothers reported between 3 or more minimum wages (35%), with an equal distribution between groups: clinical and non-clinical ($\chi^2 = 1.321$; $p = 0.540$); boys and girls ($\chi^2 = 1.846$; $p = 0.397$).

Instruments

Teacher's Report Form (TRF) and *Child Behavior Checklist (CBCL)* (Achenbach & Rescorla, 2001) were used to select the sample. The first directed to teachers' evaluation of the students' behaviors, and the second directed to the mothers' evaluation of the children's behaviors. The scores identify general patterns of behavior: externalizing, internalizing and total, and considered them as clinical, borderline or non-clinical. According to Bordin et al. (2013), the TRF is considered the gold standard for the assessment of behavior problems, since it has excellent psychometric properties, being widely used in several countries. However, it is still in the process of validation in Brazil. Regarding the CBCL, a preliminary validation study was conducted in Brazil, in which the answers of the mothers were compared with results of psychiatric evaluation, with a high correlation index (Bordin, Mari, & Caeiro, 1995).

Interview Script for Parental Social Educational Skills (Roteiro de Entrevista de Habilidades Sociais Educativas Parentais – RE-HSE-P) (Bolsoni-Silva, Loureiro et al., 2016) is a semi-structured interview to describe parental interactions. The answers obtained are coded in subcategories: hse-p, negative practices, children's social skills, context variables and complaints of behavior problems. Total Positive is obtained by adding the hse-p scores, children's social skills and context. In contrast, the Negative Total is obtained by adding the scores of negative practices and behavior problems. The instrument has good indicators of discriminant validity, construct and test-retest reliability, and has an internal consistency with 0.846 Cronbach's alpha (Bolsoni-Silva, Loureiro et al., 2016).

Socially Skilled Questionnaire (Questionário de Respostas Socialmente Habilidosas – QRSH-Pais). This instrument was used to measure the frequency of 18 socially-skilled behaviors of children, according to the mothers' report. After its completion, the scores are added up and the total score of social skills of the assessed child is obtained. The instrument presents good results considering the discriminative validity and has satisfactory internal consistency, with 0.82 Cronbach's alpha (Bolsoni-Silva, Marturano, & Loureiro, 2011).

Patient Health Questionnaire (PHQ-4) (Kroenke, Spitzer, Williams, & Löwe, 2009) was used to measure the occurrence of mothers' anxiety and depression symptoms. It consists of four items that assess the frequency of symptoms in the two weeks before the application. The Portuguese version was made by Pfizer (Copyright © 2005 Pfizer Inc., New York, NY). This instrument has good psychometric properties in a validation study with the general population (Löwe et al., 2010). In Brazil, only the reliability of the two items related to depression (PHQ-2) was tested with a clinical sample, with a 0.64 Cronbach's alpha (Osório, Carvalho, Fracalossi, Crippa, & Loureiro, 2012).

Procedure

Data collection. An authorization was obtained from the Department of Education of a city in the Midwest of the state of São Paulo to conduct the study. Subsequently, three Municipal Elementary Schools were contacted for the explanation of the objectives of the study to the school administration and teachers. Teachers were asked to indicate a child who they considered to have behavior problems and a child who did not have behavior problems, ensuring sample match regarding the number of boys and girls in each group. The girls in the clinical group and the non-clinical group had their ages matched, which also happened with the boys; however, there were variations in ages between the indications for girls and boys, since the girls had a higher average age, although the Chi-Square comparisons did not differentiate the groups ($\chi^2 = 3.636$; $p = 0.057$).

Afterwards, the mothers were contacted to authorize teachers to answer the TRF. When the indication of the teacher and the subsequent evaluation and correction of the TRF confirmed the adequacy to the criterion, the mothers were invited to participate in the study. A session was scheduled with each mother to apply the instruments (CBCL, RE-HSE-P, QRSH-Pais and PHQ-4) in a place chosen by the participants (school or residence). In cases, in which the CBCL correction indicated that the mother's assessment met the criteria for the child to participate in the study, the child was included. When the child did not meet the inclusion criteria, the participant was excluded, and teachers had to indicate another child and answer the TRF for each new indication. The instruments were applied at once in person. The application of the TRF with the teacher lasted approximately 30 minutes for each indication. The application with each mother lasted approximately two hours in the following order: CBCL, RE-HSE-P, QRSH-Pais and PHQ-4. Figure 1 schematically describes the sampling process.

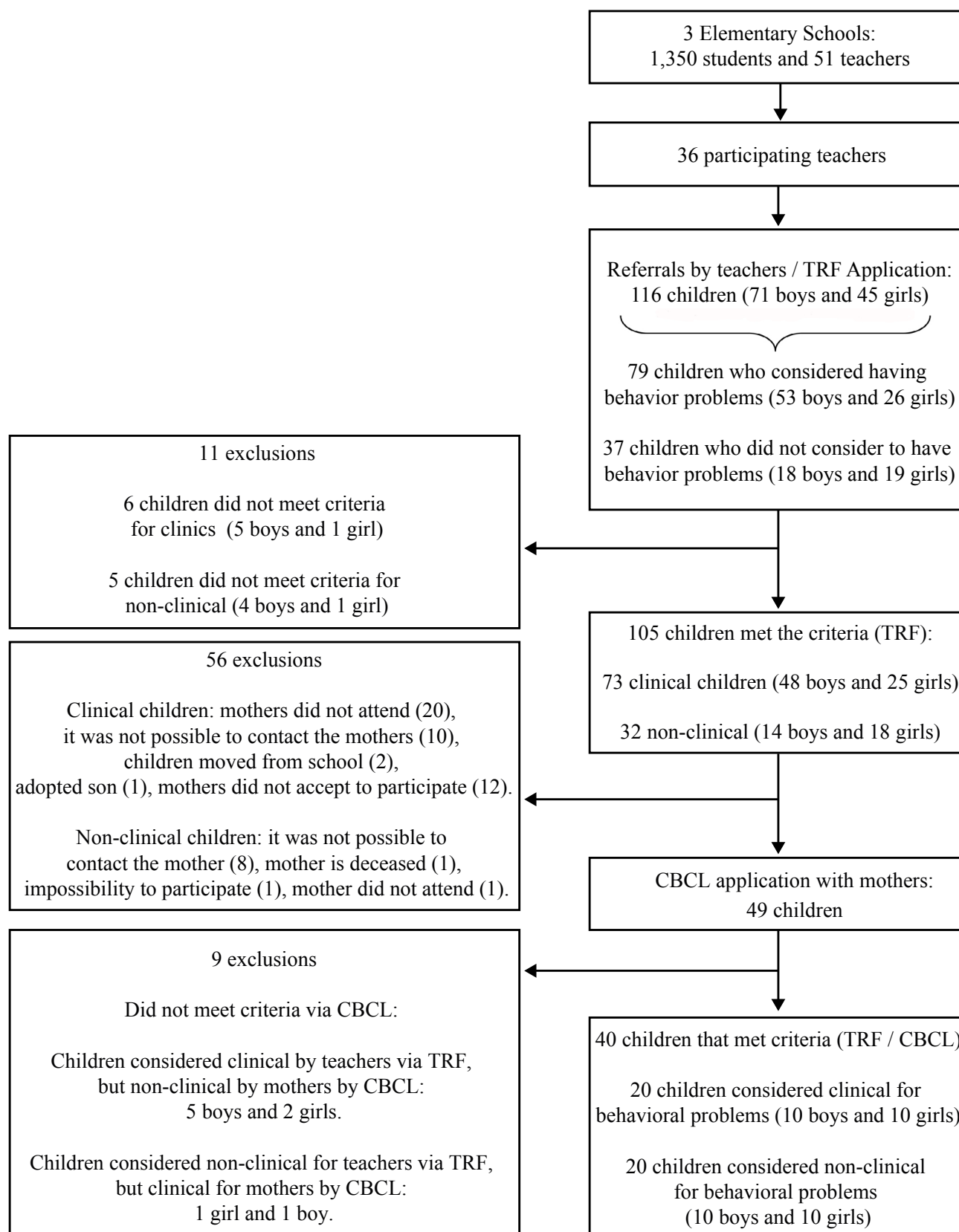


Figure 1. Sampling procedure.

Data analysis. Teachers' (TRF) and mothers' (CBCL, RE-HSE-P, QRSH-Pais) answers were categorized according to the instructions of the instruments. Regarding PHQ-4, the sum of the four items (total score) was performed separately, as well as the sum of the depression and anxiety scores. The TRF and CBCL instruments were analyzed using the *Software Assessment Data Manager* (ADM 7.0) and provided the children's profiles for behavior problems, guaranteeing the result for the composition of the groups. The total sample of clinical and non-clinical groups was analyzed and compared in general and divided into subgroups to discriminate the specificities of the participants regarding the variable "sex". The numerical variables were compared regarding the presence or absence of behavioral problems and sex (*Mann-Whitney U test*). In our analysis, a *p* less

than or equal to 0.05 was considered, in a 95% confidence interval.

Ethical Considerations

Our study was approved by the Research Ethics Committee (CEP), through process CAAE nº 50165515.1.0000.5398.

Results

The results are organized in three tables according to group comparisons: Clinical Group × Non-Clinical / Boys × Girls (Table 1), Clinical Girls × Non-Clinical Girls / Clinical Boys × Non-Clinical Boys (Table 2), Non-Clinical Girls × Non-Clinical Boys / Clinical Girls × Clinical Boys (Table 3).

Table 1

Comparisons between the Clinical (n = 20) and Non-Clinical (n = 20) / Boys (n = 20) and Girls (n = 20) Groups for the numerical variables of the RE-HSE-P, QRSH and PHQ-4 instruments (Mann-Whitney U test)

Categories	Clinical	Non-clinical	U	P
	Mean (Standard deviation)			
Diversity (RE-HSE-P)				
HSE-P	6.05 (2.79)	10.00 (2.65)	56.500	0.000
SS	7.35 (3.78)	12.95 (2.85)	45.000	0.000
Context	8.20 (3.54)	16.25 (4.72)	31.500	0.000
Negative Practices	5.80 (4.39)	3.70 (1.41)	131.00	0.058
Behavior problem complaints (BP)	7.55 (3.89)	2.40 (1.39)	44.500	0.000
Positive total	20.35 (8.62)	42.65 (9.29)	17.000	0.000
Negative total	14.70 (9.15)	8.1 (2.26)	132.000	0.065
Children’s HS (QRSH)	22.55 (6.73)	28.20 (5.62)	102.000	0.008
Total score (PHQ-4)	5.70 (3.85)	2.90 (2.65)	108.500	0.012
Depression score (PHQ-4)	3.30 (1.97)	1.20 (1.10)	72.500	0.000
Anxiety score (PHQ-4)	2.40 (2.40)	1.70 (1.68)	154.500	0.207
Categories	Boys	Girls	U	P
	Mean (Standard Deviation)			
Diversity (RE-HSE-P)				
HSE-P	7.90 (2.93)	8.15 (3.80)	179.500	0.576
SS	10.35 (4.77)	9.95 (4.01)	190.500	0.797
Context	12.55 (6.42)	11.90 (5.24)	186.500	0.714
Negative Practices	4.00 (2.53)	5.50 (4.00)	147.000	0.145
Behavior problem complaints (BP)	5.05 (3.88)	4.90 (3.99)	186.000	0.703
Positive total	33.00 (14.61)	30.00 (14.29)	177.500	0.543
Negative total	11.55 (6.98)	11.25 (7.94)	183.500	0.654
Children’s HS (QRSH)	25.90 (6.75)	24.85 (6.89)	180.000	0.588
Total score (PHQ-4)	3.55 (2.54)	5.05 (4.28)	170.000	0.412
Depression score (PHQ-4)	2.10 (1.71)	2.40 (2.40)	193.500	0.857
Anxiety score (PHQ-4)	1.45 (1.05)	2.65 (2.65)	150.500	0.170

Table 1 shows that the Clinical and Non-Clinical Groups differed regarding the reported complaints of behavioral problems, with the clinical group presenting higher means than the non-clinical group. On the other hand, the non-clinical group reported more hse-p, children's social skills,

context variables and positive total. The result of the QRSH-Pais also demonstrated a significant difference between the groups, in which the non-clinical group showed higher means of social skills than the clinical group. In PHQ-4, the groups also differed statistically, since the clinical group had higher

means of total score, as well as in the score of symptoms of depression when compared with the non-clinical group. In the score related to anxiety symptoms, no differences were observed between the groups. Groups of Boys and Girls did not show significant differences in any of the categories of the RE-HSE-P, QRSB and PHQ-4 instruments.

According to Table 2, the Groups of Clinical Girls and Non-Clinical Girls differed significantly in negative practices and complaints of behavior problems (RE-HSE-P), in which the group of Clinical Girls showed higher averages when compared with the group of Non-Clinical Girls. The Group of Non-Clinical Girls, on the other hand, had higher scores in diversity of interaction contexts, as well as in hse-p, children's social skills and positive total (RE-HSE-P). The result of the QRSB-Pais also showed a significant difference between the groups, in which the non-clinical group showed higher means of social skills than the clinical group. In

PHQ-4, the Group of Clinical Girls had higher averages related to the symptoms of maternal depression. The groups did not differ regarding the total and anxiety score.

Clinical Boys and Non-Clinical Boys differed significantly in hse-p, social skills, total positive and in diversity of interaction contexts, in which the group of Non-Clinical Boys showed higher averages when compared with the group of Clinical Boys. Complaints of behavior problems were reported more frequently for the group of Clinical Boys. The QRSB-Pais result showed no significant difference between groups. In PHQ-4, the Group of Clinical Boys had higher scores on symptoms of maternal depression. The total anxiety and scores did not differentiate the groups.

Table 3 shows that the groups of Clinical Girls and Clinical Boys and the groups of Non-Clinical Girls and Non-Clinical Boys had no significant difference in any of the categories of the RE-HSE-P, QRSB-Pais and PHQ-4 instruments.

Table 2

Comparisons between Clinical Girls (n = 10) and Non-Clinical Girls (n = 10) / Clinical Boys (n = 10) and Non-Clinical Boys (n = 10) for the numerical variables of the RE-HSE-P, QRSB and instruments PHQ-4 (Mann-Whitney U test)

Categories	Clinical Girls	Non-clinical Girls	U	P
	Mean (Standard Deviation)			
<i>Diversity (RE-HSE-P)</i>				
HSE-P	6.20 (3.55)	10.10 (3.07)	15.500	0.008
SS	8.10 (4.65)	11.80 (2.20)	20.000	0.023
Context	8.90 (2.88)	14.90 (5.45)	13.000	0.005
Negative Practices	7.10 (5.09)	3.90 (1.52)	24.500	0.050
Behavior problem complaints (BP)	7.70 (3.80)	2.10 (1.37)	10.500	0.003
Positive total	19.70 (10.14)	40.30 (9.62)	5.000	0.001
Negative total	14.70 (9.90)	7.80 (2.97)	30.500	0.139
Children’s HS (QRSH)	21.10 (6.52)	28.60 (5.15)	18.000	0.015
Total score (PHQ-4)	6.70 (4.57)	3.40 (3.44)	25.000	0.057
Depression score (PHQ-4)	3.50 (2.22)	1.30 (1.33)	20.500	0.024
Anxiety score (PHQ-4)	3.20 (2.39)	2.10 (2.18)	35.500	0.260
Categories	Clinical Boys	Non-clinical Boys	U	P
	Mean (Standard Deviation)			
<i>Diversity (RE-HSE-P)</i>				
HSE-P	5.90 (1.97)	9.90 (2.33)	10.500	0.003
SS	6.60 (2.72)	14.10 (3.07)	2.000	0.000
Context	7.50 (4.14)	17.60 (3.66)	4.000	0.000
Negative Practices	4.50 (3.34)	3.50 (1.35)	41.000	0.487
Behavior problem complaints (BP)	7.40 (4.20)	2.70 (1.42)	12.500	0.004
Positive total	21.00 (7.29)	45.00 (8.81)	3.500	0.000
Negative total	14.70 (8.90)	8.40 (1.35)	38.000	0.361
Children’s HS (QRSH)	23.78 (7.34)	27.80 (6.32)	32.500	0.185
Total score (PHQ-4)	4.70 (2.87)	2.40 (1.58)	29.000	0.106
Depression score (PHQ-4)	3.10 (1.79)	1.10 (0.87)	15.500	0.006
Anxiety score (PHQ-4)	1.60 (1.17)	1.30 (0.94)	42.500	0.556

Table 3

Comparisons between Clinical Girls (n = 10) and Non-Clinical Girls (n = 10) / Clinical Boys (n = 10) and Non-Clinical Boys (n = 10) for the numerical variables of the RE-HSE-P, QRSH and instruments PHQ-4 (Mann-Whitney U test)

Categories	Clinical Girls	Non-clinical Girls	U	P
	Mean (Standard Deviation)			
Diversity (RE-HSE-P)				
HSE-P	6.20 (3.55)	5.90 (1.97)	43.500	0.616
SS	8.10 (4.65)	6.60 (2.72)	40.000	0.447
Context	8.90 (2.88)	7.50 (4.14)	31.000	0.148
Negative Practices	7.10 (5.09)	4.50 (3.34)	32.000	0.164
Behavior problem complaints (BP)	7.70 (3.80)	7.40 (4.20)	47.000	0.819
Positive total	19.70 (10.14)	21.00 (7.29)	49.000	0.940
Negative total	14.70 (9.90)	14.70 (8.90)	47.000	0.820
Children’s HS (QRSH)	21.10 (6.52)	23.78 (7.34)	35.500	0.271
Total score (PHQ-4)	6.70 (4.57)	4.70 (2.87)	35.500	0.270
Depression score (PHQ-4)	3.50 (2.22)	3.10 (1.79)	44.500	0.668
Anxiety score (PHQ-4)	3.20 (2.39)	1.60 (1.17)	42.500	0.556

Categories	Non-clinical Girls	Non-clinical Boys	U	P
	Mean (Standard Deviation)			
Diversity (RE-HSE-P)				
HSE-P	10.10 (3.07)	9.90 (2.33)	43.500	0.620
SS	11.80 (2.20)	14.10 (3.07)	2.000	0.063
Context	14.90 (5.45)	17.60 (3.66)	4.000	0.058
Negative Practices	3.90 (1.52)	3.50 (1.35)	41.000	0.554
Behavior problem complaints (BP)	2.10 (1.37)	2.70 (1.42)	12.500	0.372
Positive total	40.30 (9.62)	45.00 (8.81)	3.500	0.130
Negative total	7.80 (2.97)	8.40 (1.35)	38.000	0.358
Children’s HS (QRSH)	28.60 (5.15)	27.80 (6.32)	32.500	0.940
Total score (PHQ-4)	3.40 (3.44)	2.40 (1.58)	29.000	1.000
Depression score (PHQ-4)	1.30 (1.33)	1.10 (0.87)	49.500	0.969
Anxiety score (PHQ-4)	2.10 (2.18)	1.30 (0.94)	43.500	0.609

Discussion

Our study compared child behaviors, educational practices and maternal mental health in a case-control design. In general, the results showed that the clinical group had greater complaints of behavior problems, data supported by Hanisch, Hautmann, Plück, Eichelberg and Döpfner (2014). Mothers in the non-clinical group had a higher occurrence of hse-p and children had more social skills, in consistence with Borden et al. (2014), who found that non-clinical children had, more frequently and differently, social skills and, less frequently, behavior problems. According to Borden et al. (2014) and Clark and Frick (2018), children without behavior problems obey more frequently, both because parents are more affective and interact at different times, as well as because they are more contingent when setting limits. Thus, parents who with more educational social skills and less use of negative practices more often provide appropriate behavioral models, as well as encourage socially-skilled behaviors of their children (Fantinato & Cia, 2015; Van Vugt et al., 2013; Waller et al., 2015).

Regarding maternal mental health, mothers of clinical children had higher scores related to symptoms of depression,

in consistence with Alvarenga et al. (2012) and in Mian et al. (2009), who identified maternal depressive symptoms as one of the greatest risk factors for the development of cognitive, emotional and behavioral problems in children of school and pre-school age. Our findings also corroborate a study by Rakow et al. (2009), who found that depressed mothers used negative educational practices more frequently. They are consistent with Mendes, Loureiro and Crippa (2008), who found, in a literature review, that children of mothers with depression were exposed to a range of stressors, such as hostile environments, family discord and occupational problems. Thus, we emphasize the importance of developing early care in maternal and child mental health due to the impact of maternal depression on children's educational practices and behaviors.

The groups did not differ regarding the symptoms of maternal anxiety, which reinforces the hypothesis that there is a different association between depression and maternal anxiety and the behavior of school-aged children. Although conducted with children at a different age than in our study, Morais et al. (2017) also did not find associations of anxiety symptoms with the mother-child relationship. On the other hand, investigations with babies have found a relationship between maternal

anxiety and child behaviors (Rodrigues & Nogueira, 2016; Veríssimo et al., 2003). Thus, our study addresses maternal anxiety among mothers of children at school age, which is little studied in the literature and the findings are not comparable due to the scarcity of studies, which indicates the need for further investigations in this direction.

Regarding the comparison between the group of boys and girls, no differences were found, both in the general groups and when separated considering the presence or absence of behavioral problems. This finding was consistent with other authors (Martín et al., 2014; Massola & Silveira, 2005), who also did not find any significant differences between female and male children.

However, our findings are not consistent with the studies by Mariano and Bolsoni-Silva (2016) and by Pizato et al. (2014), who found higher scores for social skills in girls than in boys. These different results can be explained by the different methodologies and especially in the different designs, since in the study by Pizato et al. (2014), the authors assessed the variable “sex”, but the presence or absence of behavior problems was not previously assessed. In a study by Mariano and Bolsoni-Silva (2016), the teacher was the only respondent, therefore, the presence or absence of behavior problems in the family environment could not be identified. Likewise, there was also no balanced sample regarding the occurrence of behavior problems and sex.

In the comparison between the group of clinical and non-clinical girls, clinical girls had higher scores for complaints of behavior problems, reported by their mothers, who, in turn, had more negative practices. These results pointed to a connection between negative educational practices and behavioral problems, which is supported by the literature (Price, Chiapa, & Walsh, 2013). Thus, parents tend not to adequately respond to their children’s skillful behaviors, either by just ignoring them or by responding inappropriately, and aggressively, when trying to control problematic behaviors. On the other hand, non-clinical girls had more social skills and their mothers had a higher occurrence in hse-p report. In the comparison between clinical and non-clinical boys, clinical boys had higher scores for complaints of behavior problems. Likewise, the mothers of non-clinical boys had higher averages for hse-p and the boys, more social skills for children. These results corroborate the findings by Pizato et al. (2014), in which children with high scores of social skills had low rates of behavioral problems.

No differences were found when comparing the group of clinical girls and clinical boys and non-clinical girls and non-clinical boys. Thus, our findings suggest that the children’s behavior, more than their sex, influences the use of hse-p or negative practices, in opposition to authors who found that parents interacted with their children according to their sex (Sampaio & Vieira, 2010; Trad, 1999; Wright et al., 2013). Thus, it seems important to assess sex when studying parenting practices and behavior problems.

One of the contributions of our study was its case-control design. Another contribution is in the assessment of variables, which is based on the clinical identification of the

children with greater risks by two informants – teachers and mothers – since they had behavior problems both in school and in family environments. The study of maternal depression and anxiety and their relationship with schoolchildren’s practices and behavior was also important due to the scarcity of studies. One of the limitations is the fact that the period from the 1st to the 5th year of elementary school includes different stages in the students’ development course, which can be assessed in future studies. The instrument used to assess maternal mental health can be cited as a limitation, since it was validated for the Brazilian clinical population only regarding depression. It is important to emphasize that other screening instruments for depression and anxiety validated for the Brazilian population are already available and can be used in future studies.

Our findings also have implications for public policies. Considering that, based on the point of view of teachers and mothers, clinical children are at risk for social and academic development, since they were not receiving any care at the time of collection. Thus, it seems urgent to identify indicators of behavior problems at school and in the household and invest in interventions with teachers, parents and children to minimize risks and expand socially-skilled repertoires. Further studies are necessary to assess the variables “sex” and “occurrence of behavior problems”, including the assessment of age and schooling, increasing the number of participants and including the father in the data collection. Future studies are suggested to include direct observation measures and specify types of educational practices for each type of behavior problem, since, in our study, hse-p and negative practices were analyzed in general, regardless of the internalizing, externalizing or mixed nature of their behavior problem. Furthermore, we think it is essential to invest in interventions that provide more positive and functional patterns of interaction, both between teacher and child, and between parents and child.

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Authors' Contribution:

All authors made substantial contributions to the conception and design of this study, to data analysis and interpretation, and to the manuscript revision and approval of the final version. All the authors assume public responsibility for content of the manuscript.

Received: Apr. 08, 2018

1st Revision: Jul. 13, 2018

2nd Revision: Sep. 12, 2018

Approved: Oct. 16, 2018

How to cite this article:

Assis-Fernandes, R. P., & Bolsoni-Silva, A. T. (2020). Educational social skills and repertory of children differentiated by behavior and sex. *Paidéia (Ribeirão Preto)*, 30, e3015. doi:<http://dx.doi.org/10.1590/1982-4327e3015>