Child Sexual Violence: Interpersonal Relationship and Self-Image Evaluated by Zulliger R-Optimized Application

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Abstract
This study aimed to verify the validity of Zulliger criteria in the evaluation of interpersonal relationships and self-image of children victims of sexual violence. Population: 42 children between 7 and 13 years old participated, divided into three groups: 19 Victims of sexual violence (G1); 10 Cancer patients (G2); 13 Control group (G3). Instruments: Zulliger in the Comprehensive System (ZSC) R-Optimized application; Personality Scale for Children (ETPC, EPQ-J); Social Skills Inventory for Children (SSRS); Intelligence Test (CPM-Raven). G1, when compared to other groups, showed more tendency to problematic or less adaptive understanding of interpersonal interactions [$p < 0.05$ in PHR, GHR and p (ZSC); Psychosis (ETPC, EPQ-J); EG and F2 (SSRS)], more self-critical and negative self-image [$p < 0.05$ in MOR (ZSC)] and increased traumatic content [$p < 0.05$ in Bl (ZSC)]. The ZSC demonstrated preliminary evidence of validity in the evaluation of Interpersonal Relationship and Self-image of victims of child sexual violence.
Keywords: child abuse; psychological assessment; test validity; projective techniques.

Violência Sexual Infantil: Relacionamento Interpessoal e Autoimagem Avaliados pelo Zulliger Aplicação R-Otimizada

Resumo
Esse estudo objetivou verificar evidências de validade do Zulliger na avaliação de relacionamento interpessoal e autoimagem de crianças vítimas de violência sexual. Participaram 42 crianças entre 7 e 13 anos, divididas em três grupos: 19 vítimas de violência sexual (G1); 10 pacientes com câncer (G2); 13 grupo-controle (G3). Foram utilizados como instrumentos o Zulliger no Sistema Compreensivo (ZSC) aplicação R-Otimizada, Escala de Personalidade para Crianças (ETPC, EPQ-J), Inventário de Habilidades Sociais para Crianças (SSRS), Teste de Inteligência (CPM-Raven). O G1, quando comparado aos outros grupos, mostrou-se com mais tendência a compreensão problemática ou menos adaptativa das interações interpessoais [$p < 0,05$ em PHR, GHR e p (ZSC); Psicotismo (ETPC, EPQ-J); EG e F2 (SSRS)], mais autocríticas e autoimagem negativas [$p < 0,05$ em MOR (ZSC)] e aumento de conteúdos traumáticos [$p < 0,05$ em Bl (ZSC)]. O ZSC demonstrou evidências preliminares de validade na avaliação de Relacionamento Interpessoal e Autoimagem de vítimas de violência sexual infantil.
Palavras-chave: abuso infantil; avaliação psicológica; validade do teste; técnicas projetivas.

Violencia Sexual Infantil: Relaciones Interpersonales y Autoimagen Evaluadas por Zulliger Aplicación R-Optimizada

Resumen
Este estudio tuvo como objetivo verificar evidencias de validez de Zulliger en la evaluación de las relaciones interpersonales y la autoimagen de los niños víctimas de violencia sexual. Participaron 42 niños entre 7 y 13 años: 19 Víctimas de violencia sexual (G1); 10 pacientes con cáncer (G2); 13 Grupo de control (G3). Los instrumentos utilizados: Zulliger en el Sistema Comprensivo (ZSC) aplicación R-Optimizada; Escala de personalidad para niños (ETPC, EPQ-J); Inventario de Habilidades Sociales para Niños (SSRS); Test de Inteligencia (CPM-Raven). En comparación con otros grupos, G1 tuvo más probabilidades de una comprensión problemática o menos adaptativa de las interacciones interpersonales [$p<0,05$ en PHR, GHR y p (ZSC); Psicotismo (ETPC, EPQ-J); EG y F2 (SSRS)], más autocrítica y autoimagen negativa [$p<0.05$ en MOR (ZSC)] y mayor contenido traumático [$p<0.05$ en Bl (ZSC)]. El ZSC demostró evidencias preliminares de validez en la evaluación de la Relación Interpersonal y la Autoimagen de las víctimas de violencia sexual infantil.
Palabras clave: abuso infantil; evaluación psicológica; validez del test; técnicas proyectivas.

Introduction

Sexual violence against children and adolescents is a public health problem. From 2011 to 2017, 184,524 cases of sexual violence were reported, 45% (n=83,068) against adolescents aged 10 to 19 years, and 31.5% (n=58,037) against children up to 9 years of age. Of these, 74.2% (n=43,034) were female and 25.8% (n=14,996) were male. Of the reports of sexual violence against children, 69.2% (n=40,154) occurred in homes and in 37% (n=19,542) the abuses were recurrent (Ministry of Health, 2018). In 2019 alone, 17029 reports of child sexual violence were reported, 82% against girls and in 63% of the cases the complaint

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consisted of intrafamily sexual violence (Ministry of Women of The Family and Human Rights, 2020).

Child sexual violence is considered the interactions in which the child and/or adolescent are used for sexual satisfaction of an adult or another adolescent in a more advanced psychosexual phase. Abusive interactions include cases of harassment, rape, sexual exploitation, incestuous abuse, erotic practices, and forced interaction with pornographic materials (Krindges, Macedo, & Habigzang, 2016; Ministry of Health, 2018).

In victims of child sexual violence, harmful effects were observed, such as changes in cognition and emotion (Gewirtz-Meydan, 2020), dysfunctional thoughts, depressive episodes in adolescence and adulthood (Gabatz, Schwartz, Milbrath, Zillmer, & Neves, 2017; Wu, Chi, Lin, & Du, 2018). When childhood relationships are marked by violence and/or neglect, the result may be the development of anxiety, depressive episodes, posttraumatic stress and the avoidance of interpersonal relationships (Briere, Runtz, Eadie, Bigras, & Godbout, 2017; Vallati et al., 2020).

Difficulties in interpersonal relationships are described in several studies that evaluated the effects of child sexual violence (Briere et al., 2017; Tardif-Williams, Tanaka, Boyle, & MacMillan, 2017; Wu et al., 2018). The authors point out that the cognitive processes that resulted in dysfunctional thoughts and impaired interpersonal relationships may persist into adulthood, and may cause harm to the mental health of victims (Tardif-Williams et al., 2017) and lead to revictimization (Perfect, Tharinger, Keith, & Lyle-Lahroud, 2011).

In view of the diversity of negative effects that child sexual violence causes, and especially the problems related to interpersonal relationships, psychology, in this context, can assume a relevant role in responding to the demands of this population. Among the possible attributions, we mention the evaluation of children with suspected sexual violence or with proven sexual violence (Cadan & Albanese, 2018) to perform psychological care to victims (Rossato, Santeiro, Barroso, & Scorsolini-Comin, 2018) and guide prevention programs, enabling children and adolescents space to discuss their issues and the effects of sexual violence (Del Campo & Fávero, 2020).

However, it is necessary to use psychological tests that help the evaluations and that benefit the investigation process, both to identify cases of sexual violence suffered and to guide specific interventions to these children. In the conjunction of these two points, it is observed that early traumatic experiences have disastrous effects on the mental processes of symbolization and that projective methods can serve as devices to symbolize (Roman, 2017). For the author, in this catastrophe of symbolization generated by trauma, there may be a spark with reconstruction potential, which can be activated by projective methods.

Among the projective methods, the Rorschach and Zulliger tests are based on similar assumptions related to psychic processes involved in responses to poorly structured stimuli. by responding to the methods of ink staining, the individual triggers cognitive aspects from the attention, perception, decision making and critical or logical analysis (Biasi & Villemor-Amaral, 2016; Cardoso, Gomes, & Vieira, 2018; Villemor-Amaral, Pavan, Tavella, Cardoso, & Biasi, 2016).

In addition to the therapeutic potential, the projective methods need to present evidence of validity, capable of providing reliable support to the interpretation of the scores obtained through the responses given to the stimuli. Among the nomenclatures on the validity of measures, the validity related to the criterion addresses the quality of a test to function as a present or future predictor of another variable, operationally independent (AERA, APA, & NCME, 2014).

The search for evidence of validity of criteria-centered tests can also be performed through consequential validity. Bornstein (2017) highlights the importance of expanding validation models that emphasize separate reliability and validity indices. In this perspective, in addition to the psychometric indicators, which remain important, the application of the test in different contexts and configurations is considered. Bornstein argues that in order to obtain a more complete result of the psychometric solidity and the consequent validity of a test, the traditional evaluation of validity focused on the result must be complemented by the evaluation of validity focused on the process.

Some studies have demonstrated valid interpretative inferences, based on the performance of children and adolescents in the Rorschach method. The study by Scortegagna and Villemor-Amaral (2009) investigated the validity of Rorschach, in the Comprehensive System (CS), to evaluate victims of sexual violence, with the use of contrasting groups. Seventy-six adolescents between 10 and 14 years old were divided into two groups: one of victims of sexual violence and the other of non-victims. The group of victims differed in the variables m (inanimate movement), Bl (blood),

An (anatomy), MOR (morbid content), Sx (sex content) and FQ- (unusual formal quality).

In a later study, Perfect et al. (2011) sought the association between Rorschach variables in the CS, with the severity of subtypes of violence in 157 adolescents between 14 and 17 years of age. The results indicated that those who suffered sexual violence presented more pathological behaviors with respect to emotional stress (SumY= 0.96, SumC'= 1.01, T= 0.36), thought and perception disorders (PTI= 0.45) and more tendency to problematic or less adaptive understanding of interpersonal interactions (PHR > GHR).

When applied in a longitudinal study, the Rorschach method in the CS identified correlations between the variables of the Traumatic Content Index Bl, Sx, An, MOR, AG (aggressive content), described by Armstrong and Loewenstein (1990) with indicators of depression in 44 children aged between 6 and 15 years, victims of sexual violence (Barnett et al., 2013). Scortegagna and Villemor-Amaral (2013) evaluated similar indicators, when analyzed 29 protocols of victims and non-victims of sexual violence between 10 and 14 years. The qualitative analysis highlighted a greater predisposition to intrusive thoughts of painful body experiences (m and Bl) and self-criticism (MOR).

Similarities with the Rorschach method allow us to infer that the Zulliger method can also be a useful tool in evaluations in analog contexts. Considering that the Zulliger method presents as advantages can be applied in a shorter time and generate less cost for the evaluators, this can become an option that can facilitate the evaluation process, especially with children in situations of vulnerability.

Following scientific advances, the Rorschach method was transposed into the Performance Evaluation System (R-PAS, Meyer et al., 2017). This transposition offers as a benefit greater statistical support and the possibility of using normative data in international databases. In line with these improvements, the Zulliger Method in the Comprehensive System (ZSC) has been studied with the guidance of controlling the number of responses (Gonçalves, Zuanazzi, & Villemor-Amaral, 2019; Seitl et al., 2018), as well as R-PAS. This orientation consists of, during the application, asking the individual evaluated with the use of the ZSC, to issue three to five answers on each card.

However, even with these advances and therapeutic potential, in Brazil there are few studies that use the ZSC in children, in contexts of child sexual violence are practically nonexistent. It is known that when child sexual violence occurs intrafamilially, it is common for the abuser to use emotional threats and abuse to maintain control over the victim. In these cases, victims do not always have visible physical marks of abuse (Scortegagna & Villemor-Amaral, 2012). At this juncture, psychological evaluation becomes a fundamental procedure, especially to identify psychic marks left by the sexual violence suffered and the damage to relational, social, cognitive and affective abilities can be important identifiers. Then, there is a need for specific studies on the application of the ZSC in this context, also considering similarity aspects between the methods.

In the last 10 years (2009-2019), however, only five Brazilian studies have proposed to seek evidence of validity for the ZSC in children. Of these studies, none used the control of the number of responses or evaluated victims of sexual violence. The study by Carvalho and Resende (2019) sought to present and compare the performance of 304 children of different ages when answering the Zulliger method. The study by Cardoso et al. (2018) aimed to distinguish the performance of children of different ages in a group of 173 children divided into three age groups 6-7, 8-9 and 10-11 years. Biasi and Villemor-Amaral (2016) focused on interpersonal relationship indicators to differentiate socially popular children from less popular children in a sample of 48 children. Villemor-Amaral and Vieira (2016) sought to understand how children develop maturity for interpersonal relationships in a sample of 115 children. Villemor-Amaral et al. (2016) sought to distinguish emotional, social and cognitive aspects of child development typical of different age groups between 6 and 12 years in a sample of 103 children.

Another factor motivates the studies of the ZSC in the evaluation of victims of child sexual violence. Regarding the symptoms described as effects of violence suffered (anxiety, depressive episodes, and relationship difficulty), other groups that experience physical trauma may also develop similar symptoms. This happens with children who develop cancer or other body diseases.

Cancer in children and adolescents can accelerate stages of maturity; bring consequently significant social damages such as isolation, fear of peer rejection and decrease or problems in social skills. The study by Anthony et al. (2019), when evaluating 37 cancer patients between 8 and 18 years of age identified that these patients have their quality of life affected mainly by negative social results, resulting from the effects of treatment and the time they usually stay in the hospital.

There is also the scarcity of studies that sought to evaluate children with cancer using projective methods such as Zulliger or Rorschach. The only article for this purpose evaluated 18 children, oncologic patients, using the Rorschach method and the results pointed to a high level of anxiety in younger boys and older girls, and older girls presented greater distortion in the perception of the world (Goggin, Lansky, & Hassanein, 1976).

Therefore, discriminating indicators of victims of child sexual violence, observed in the Rorschach method, may also be representative of the suffering of people who did not suffer sexual violence, but were victimized by physical traumas such as cancer or other diseases. In these contexts of vulnerabilities, there are similarities between the emotional manifestations between victims of child sexual violence and children with cancer, between the structure of the tests and the procedures for applying Rorschach and Zulliger and the lack of studies with the objective of seeking evidence of validity of the Zulliger method in children victims of sexual violence.

These justifications motivate empirical studies on evidence of Zulliger's validity in order to discriminate clinical and non-clinical groups so that scientific advances can be achieved and psychological assessments in these contexts more securely. In view of the above, this study aimed to verify the validity of the Zulliger R-Optimized application criterion in the evaluation of interpersonal relationships and self-image of children victims of sexual violence.

To answer this objective, the following hypotheses were listed:

H. 1 - Victims of child sexual violence will show one or more indicators of harm in their interpersonal relationships (COP, GHR, SumH and PureH decreased and increased in PHR, SumT, PER, Isolation and AG).

H.2 - Victims of child sexual violence will present one or more indicators that report problems in Self-image (increase of An+Xy, MOR and SumV).

H.3 - Victims of child sexual violence will present one or more indicators that inform about traumatic content in Rorschach (increase of An, Bl and Sx, Armstrong & Loewenstein, 1990).

Method

Participants

Participated in this study forty-two children, between 7 and 13 years old, with a mean age of 11.02 years (SD=1,774), 19 (45.2%) males and 23 (54.8%) females. The mean schooling found was 5.33 years (SD=1,692). The sample was selected from institutions protecting children and adolescents from violence, a general hospital and a public school that specifically met these demands in a city in the north of Rio Grande do Sul, Brazil. All available children who met the inclusion/exclusion criteria were considered for evaluation. These children were divided into three groups as follows:

- Group 1 (G1) was composed of 19 (45.2%) children victims of child sexual violence, assisted in a care center specialized in child violence, however, the children live in their own homes. As inclusion criteria for this group, children should be between 7 and 13 years old and should have been evaluated with documented confirmation of sexual violence. The exclusion criterion was marked difficulty of vision. As characteristics of sexual violence, for 16 children (84.21%), it occurred intrafamily. Only in 13 cases (68.4%) did the perpetrator no longer maintain contact with the victims. Regarding the recurrence of sexual violence, 12 cases (63.2%) were reported with repetition of violence; while another seven (36.8%) reported having suffered sexual violence only once. Regarding the type of sexual violence suffered, in 14 (73.68%) cases there was some form of sexual contact with penetration (n=8, 42.10%) or without penetration (n=6, 31.57%); while for five (26.31%) cases there was some form of erotic practice, being exhibitionism (n=3, 15.78%) or voyeurism (n=2, 10.52%).
- Group 2 (G2) was composed of 10 (23.8%) children, cancer patients under treatment in a school hospital specialized in psycho-oncologic care. As inclusion criteria, children should be between 7 and 13 years old and have a confirmed cancer diagnosis. The exclusion criteria were to have been victim of child sexual violence, to be very weak due to the treatment and to accentuate difficulty of vision. Of these 10 children, 7 (70%) were diagnosed with leukemia, 1 (10%) was diagnosed with lymphoma, 1 (10%) was diagnosed with head cancer, and 1 (10%) was diagnosed with face cancer. The mean time in years of treatment at the time of data collection was 1.9 (SD=0.951).

- Group 3 (G3) consisted of 13 (31%) children who were neither victims of child sexual violence nor diagnosed with cancer, students in public schools. As inclusion criteria, children should be between 7 and 13 years old. The exclusion criterion was marked difficulty of vision.

Instruments

- Zulliger Comprehensive System (ZSC, Villemor-Amaral & Primi, 2009) R-Optimized Application. It evaluates the structure and dynamics of personality. Composed of three cards with ink stains in which the subject must answer the question "what does this look like?" or "what could it be?". Two precision studies were conducted in the test-retest design, most indicators obtained values above 0,70 (p=0,001) and the results of agreement between the evaluating judges obtained correlations between 0,60-0,80, being considered as a high association, and the results of agreement between the internal consistency values were not reported. In this study, the recommendation followed in the R-PAS manual and empirical studies, (Gonçalves, Zuanazzi & Villemor-Amaral, 2019; Meyer et al., 2017; Seitl et al., 2018) was used, changing the test instruction. In order to optimize the number of answers, it was requested that for each card at least three and a maximum of five answers should be issued. The variables of the Interpersonal Relationship and Self-Image groups of the ZSC were considered for this study and the variables Sx, Bl and An were added, components in the Rorschach of the Traumatic Content Index (Armstrong & Loewenstein, 1990). These variables already have been described as variables with higher scores in victims of child sexual violence when compared to non-victims (Scortegagna & Villemor-Amaral, 2012).
- Personality Traits Scale for Children (ETPC; Sisto, 2004). Composed of 30 items, it is a self-report instrument that assesses personality traits in children from 5 to 10 years of age. Its application consists of questions with dichotomous answers (yes or no) about how children think and fell (e.g. do you like telling jokes?). It presents good internal consistency indexes (Cronbach Alpha) and factorial structure of four components: Extroversion (α = 0.88), Neuroticism (α =0.80), Psychoticism (α = 0.91) and Sociability (α = 0.88).
- Personality Scale for Children and Adolescents (EPQ-J, Eysenck & Eysenck, 2013). Composed of 60 items, a self-reporting instrument that evaluates personality traits in children from 10 to 16 years of age. Its application consists of question with dichotomous answers (yes or no) about how children think and feel (e.g. Have you ever gone to sleep without brushing your teeth?). It presents good internal consistency indexes (Cronbach Alpha) and factorial structure of four components: Extroversion (α = 0.69), Neuroticism (α =0.79), Psychoticism (α = 0.75) and Sincerity (α = 0.79).
- Inventory of Social Skills (IHS), Behavior Problems and Academic Competence for Children (SSRS; Del Prette, 2017). Composed of 20 questions, it is a self-report instrument that assesses social skills in children from 6 to 13 years of age. Its application consists of situations in which, by means of Likert scale (Never, A few times, Very often), the subject being evaluated indicates how often they happens (E.G. I ask before using other people´s things). It has reasonable internal consistency indexes (Cronbach Alpha) and factorial structure of five components: General Score (GS, α = 0,73), Empathy/Affectivity (F1, α = 0,63), Responsibility (F2, α = 0,60), Self-Control/Civility (F3, α = 0,54) and Assertiveness (F4, α = 0,41).
- Raven Colored Progressive Matrices (CPM-Raven; Raven et al., 2018). Composed by 36 items, it aims to measure intelligence (Factor g) and provides information about the ability of individuals to generate new insights in children between 5 and 11 years. Its application consists of presenting images with multiple options that could fill a missing space. It presents good internal consistency index evaluated by Cronbach's Alpha (α = 0.78).

Procedures

After approval by the Research Ethics Committee, under opinion [hidden information], there was contact with the institutions, determining which children met the inclusion criteria for participation in the research.

After informing the parents or legal guardians of these children about the objectives of the research, those who authorized their children to participate signed a Free and Informed Consent Form. Then, we contacted and invited the children to participate in the research, and for those who accepted the invitation, we asked them to sign the Consent Form. The main researcher of this study collected the data, individually, at the premises of the institutions of origin, in a single session of 1 hour, after the initial report.

The sequence of application of the instruments occurred in the following order: Personality scale, according to the age of the child (ETPC or EPQ-J); Social skills scale (SSRS); ZSC; Intelligence scale (CPM-Raven). For greater reliability of the ZSC data, a reliability study was carried out, between evaluators. Twenty percent of the protocols randomly selected and sent for recoding by an independent judge without knowledge of which group the protocols are. Posteriori, agreement analysis performed using the Intraclass Correlation Coefficient (ICC) using the two-way randomized model, seeking absolute agreement. The interpretation followed the recommendations of Cicchetti (1994) - ICC < 0.4 = poor; $0.4 \leq$ ICC < 0.59 = reasonable; $0.6 \leq$ ICC < 0.75 = good; ICC ≥ 0.75 = excellent. The ICC values for the ZSC variables varied between good (0.718) and excellent (0.990) with most variables presenting excellent (n=14, 66%) and good (n=1, 4.7%) results. Other variables (n=6, 28%) presented zero values in the randomized protocols, not allowing the test to be performed, although it can still be considered the agreement of the evaluators by not assigning these codes in the answers found in these protocols.

Data analysis

The main author of this study codified the Zulliger protocols and research advisor reviewed them. For statistical analysis, one-way Anova and post hoc of DMS were used considering $p<0,05$.

Results

Initially, socio-demographic data on the children interviewed will be presented, and, in the sequence, the statistical analysis data on the instruments.

Table 1 presents the socio-demographic data on the three groups of this study. The table 1 described the average age, the number of male and female participants and the schooling of each group.

An attempt was made to maintain equity between the groups in these variables. It should be noted that G1 had a slightly higher average age and schooling than the other groups, as well as a higher number of female members.

The data shown in Table 2 present the scores obtained by the three groups and the analysis of the variables that compose the groupings of interpersonal relationships, self-image and the variables Sx, Bl and An of the ZSC. We also analyzed the variables of ETPC, EPQ-J, SSRS and CPM-Raven. The analyses were performed using the one-way Anova, with significance level of $p<0,05$.

For the ZSC, the variables that presented significant difference between the groups were GHR (p=0.013), PHR (p=0,008), p (p=0,027), MOR (p=0,014), and Bl (p=0,034). In order to identify which groups G1 differed significantly in these variables, the post hoc of DMS was used. For the variable GHR, G1 decreased compared to G2 (p=0,008), and G3 (p=0,026). The PHR variable in G1 increased compared to G2 (p=0,008) and G3 (p=0,010) and the variable MOR increased in G1 compared to G2 (p=0,012), and G3 (p=0,018). In variable p G1 increased compared to G3 (p=0,010) and the variable Bl in G1 increased compared to G2 (p=0,015).

Table 1.
Description of the socioeconomic data of the children interviewed

	G1 (n=19)	G2 (n=10)	G3 (n=13)
Age – A (SD)	11,32 (1,88)	11,00 (1,33)	10,62 (1,93)
Sex – Mal / Fem	6 / 13	6 / 4	7 / 6
Schooling – A (SD)	5,47 (1,89)	5,4 (1,35)	5,08 (1,70)

Note: A = Average; SD = Standard Deviation; Mal = Male; Fem = Female

Table 2.
Comparison of the results of the ZSC, ETPC, EPQ-J, SSRS and CPM-Raven between the groups

Variable	Average (SD)			F	p
	G1 – Victims	G2 – Cancer	G3 – Control		
ZSC					
COP	0,42 (0,69)	0,40 (0,84)	0,46 (0,66)	0,022	0,978
AG	1,16 (1,70)	0,40 (0,69)	0,92 (1,32)	0,944	0,398
GHR	0,74 (0,82)	1,90 (0,99)	1,62 (1,32)	4,873	0,013*
PHR	2,63 (2,00)	0,90 (0,87)	1,08 (1,25)	5,533	0,008**
a	1,63 (1,60)	1,60 (1,83)	2,00 (2,04)	0,200	0,820
p	1,79 (1,39)	1,00 (1,05)	0,69 (0,63)	3,981	0,027*
Fd	0,21 (0,41	0,10 (0,31)	0,00 (0,00)	1,667	0,202
SumT	0,37 (0,83)	0,30 (0,94)	0,38 (0,50)	0,037	0,964
SumH	2,84 (1,16)	2,80 (0,91)	2,62 (2,21)	0,089	0,915
PureH	1,16 (1,11)	1,80 (0,79)	1,85 (1,40)	1,753	0,187
PER	1,32 (1,91)	0,60 (1,07)	0,92 (1,93)	0,570	0,570
Isol	1,68 (1,25)	1,80 (1,87)	1,85 (1,06)	0,059	0,943
3r+(2)	2,53 (1,67)	2,00 (1,49)	2,15 (1,57)	0,416	0,663
Fr+rF	0,05 (0,22)	0,00 (0,00)	0,00 (0,00)	0,593	0,557
SumV	0,05 (0,22)	0,10 (0,31)	0,00 (0,00)	0,606	0,551
An+Xy	0,63 (1,16)	0,70 (0,82)	0,54 (0,66)	0,083	0,920
MOR	1,42 (1,21)	0,40 (0,69)	0,54 (0,77)	4,769	0,014*
H	1,16 (1,11)	1,80 (0,79)	1,85 (1,40)	1,753	0,187
(H)+Hd+(Hd)	1,68 (1,37)	1,00 (0,81)	0,77 (1,16)	2,491	0,096
Bl	0,68 (0,94)	0,00 (0,00)	0,23 (0,43)	3,698	0,034*
Sx	0,05 (0,22)	0,10 (0,31)	0,00 (0,00)	0,606	0,551
An	0,63 (1,16)	0,60 (0,69)	0,54 (0,66)	0,038	0,962
ETPC; EPQ-J					
Psychoticism	53,68 (30,26)	28,00 (23,11)	28,85 (21,99)	4,758	0,014*
Extroversion	54,47 (29,15)	71,50 (25,06)	56,92 (26,50)	1,331	0,276
Neuroticism	68,84 (23,63)	47,00 (22,75)	62,31 (25,21)	2,735	0,077
Sociability	41,67 (20,41)	33,33 (14,43)	50,00 (15,81)	0,933	0,420
Sincerity	49,62 (23,49)	36,43 (21,74)	32,86 (16,03)	1,697	0,204
SSRS					
GS	26,89 (26,65)	49,00 (23,54)	46,38 (26,83)	3,297	0,048*
F1	40,42 (33,52)	57,50 (23,00)	43,85 (25,50)	1,168	0,322
F2	35,16 (36,38)	41,80 (29,17)	65,38 (31,32)	3,287	0,048*
F3	46,00 (32,20)	64,00 (25,25)	63,31 (27,87)	1,866	0,168
F4	33,00 (26,33)	46,50 (31,18)	30,08 (28,78)	1,069	0,353
Intelligence					
CPM-RAVEN	4,53 (1,54)	4,20 (1,13)	3,54 (1,80)	1,579	0,219

Note: *p<0,05; **p<0,01. 3r+(2)= Sum of responses with reflex and pair; a= Active movement AG= aggressive movement; An+Xy= Sum of anatomy and x-ray content; Bl= Blood content; COP= Cooperative movement; Fd= Food content; Fr+rF= Sum of reflex contents; GHR= Good human representation; H:(H)+Hd+(Hd)= Proportion between responses of entire human content and human and para-human details; MOR= Morbid content; p= Passive movement; PER= Custom content; PHR= Bad human representation; PureH= responses with entire human content; Sx= sex content; SumH= Sum of human content responses; SumT= Sum of textured responses; SumV= Sum of responses with view.. GS= General score; F1= empathy/affectivity F2= Responsibility; F3= Self-control/civility; F4= Assertiveness.

G1 was more prone to problematic or less adaptive understanding of interpersonal interactions (PHR>GHR), more self-criticism and negative self-image (MOR) than the others. In addition, the group of children who have suffered sexual violence and the group of children with cancer are more likely to compensate for their fantasy frustrations and adopt more passive roles in their interactions than the children of the non-clinical group with no history of sexual abuse (Villemor-Amaral & Primi, 2009).

The other tests also showed significant differences in G1 when compared to the other groups in their variables. In the personality assessment (ETPC, EPQ-J), the variable Psychoticism (p=0,014) showed an increase in G1 and the post hoc of DMS identified that this group differed from both G2 (p=0,017) and G3 (p=0,013). In the evaluation of social skills (SSRS), the variable GS (p=0,048) presented a decrease in G1, which differed from both G2 (p=0,036) and G3 (p=0,044). Finally, the variable F2 (p=0,048), also evaluated by the SSRS, showed a decrease in G1 that differed from G3 (p=0,016). In the intelligence assessment, there was no significant difference between the groups.

Discussion

This study sought evidence of the validity of the ZSC criterion R-Optimized application in the evaluation of interpersonal relationship and self-image of children victims of child sexual violence when comparing their responses with the groups of non-victims. By comparing group G1 with groups G2 and G3, this study was able to identify that children who were victims of sexual violence differed from non-victims in the decrease in GHR, and in the increase of PHR, p, MOR and Bl.

Starting with the interpersonal relationship grouping, it is observed that G1 showed an increase in PHR responses and a decrease in GHR responses. These data confirm H.1 of this study, that children victims of sexual violence could present losses in the quality of representations about themselves and other people, when compared to non-victims. The significant increase in PHR responses concomitant with decreased GHR responses point to poorly adaptive, immature, distorted, aggressive, damaged and illogical relationships (Viglione, Perry, & Meyer, 2003). Villemor-Amaral and Primi (2009) also describe the increase in PHR in subjects with negative, distorted, unrealistic, damaged or even aggressive perceptions of themselves and the people around them.

In the study by Perfect et al. (2011), PHR responses were associated with the severity of sexual violence suffered. The authors describe as striking the correlation of PHR with the number of subtypes of maltreatment received and describe that this association offers indications that victims project in their responses, distorted, damaged and aggressive human representations.

The increase of variable p in G1 signals a greater tendency to passivity (Exner & Sendín, 1999). This result, concomitant with the increase in PHR and decrease in GHR found in G1, may indicate a risk of revictimization, as pointed out by Perfect et al. (2011). The authors report that the difficulty of victims in differentiating good or bad intentions from people can favor the formation of potentially dangerous relationships. Tardif-Williams et al. (2017) when analyzing retrospective reports of child sexual violence and current relationship status had pointed out impaired interpersonal relationships and risks of revictimization as negative effects of sexual violence.

Moving on to the grouping of self-image, which corresponds to the view of oneself and the way the characteristics of the self are represented internally, more or less integrated (Villemor-Amaral & Primi, 2009). G1 showed a significant increase in MOR content responses. This result confirms H.2 of this study that victims of sexual violence could have altered self-image. The MOR content responses, according to Villemor-Amaral and Primi, relate to the perception of themselves and objects as damaged, and can also be attributed to a devalued personal image, articulated with negative or dysphoric traits. These findings were described in previous studies evaluating victims of child sexual violence using the Rorschach method (Barnett et al., 2013; Perfect et al., 2011; Scortegagna, Ribeiro, & Villemor-Amaral, 2016; Scortegagna & Villemor-Amaral, 2009; Scortegagna & Villemor-Amaral, 2013).

The morbid contents in responses of children victims of sexual violence indicated the identification of these victims with bodies destroyed, torn apart and with a personal history of some type of aggression (Scortegagna et al., 2016; Scortegagna & Villemor-Amaral, 2013). This becomes evident in the response on card 3 (P13; Two dead butterflies - it looks like someone stepped on them and they got squashed; it looks like it's just pure blood, it looks like someone stepped on them and the blood started flowing). Responses with MOR content presented by the G2 group seem to

indicate concerns of a different order, as can be seen in the response from board 1 (P21; Spider with cancer - it's really a spider tearing itself apart, because it's ugly). The fragmented body is a result of the illness faced, while responses from the G1 group seem to indicate a violence suffered by another person. It is possible to infer, through the comparison of G1 with the groups of non-victims, that the results found in the MOR content responses may indicate harmful changes in psychic development. Also, offer evidence of the identification of victims with suffered and destroyed bodies, which may reveal damaged ego structures manifested in the projection of their contents on the ZSC boards.

Finally, G1 showed a significant increase in responses with Bl content, a result also representative for this group. The increase in these responses confirms H.3 in this study, that victims of sexual violence could present an increase in the scores of the Rorschach Traumatic Content Index variables (Armstrong & Loewenstein, 1990). Bl content responses had also been reported in studies evaluating victims of sexual violence with the Rorschach method (Barnett et al., 2013; Scortegagna et al., 2016; Scortegagna & Villemor-Amaral, 2009; Scortegagna & Villemor-Amaral, 2013). Because of their symbolism and interpretive character, Bl content responses can be important markers of sexual violence suffered, representing the victims' feelings of being raped and injured. (Scortegagna & Villemor-Amaral, 2009).

Interestingly, no Bl content responses were found in ZSC protocols of cancer patients. This result suggests that diseases that affect the body of children such as cancer seem to cause less psychic trauma when compared to the experience of sexual violence. In addition, it can be inferred that the assistance offered by the multidisciplinary team of the hospital contributes to this result. Besides, children with cancer may have a family environment that is more protective and receptive to their demands, and this may be one of the reasons for the differences found.

Roman (2017), by characterizing projective tests as "devices to symbolize", strengthens the use of these tests in the evaluations of children in the context of victimization. Children who are victims of sexual violence seem to be more prone to poor human representations and identification with destroyed bodies. The ZSC can, in this scenario, be useful as an instrument of therapeutic intervention and assist professionals in understanding the emotional dynamics, personality characteristics of these children. The increase in responses with traumatic contents can be explored so that the child can talk about their anxieties more indirectly, especially when they present difficulties to psychically metabolize and translate into words the experience suffered, thus avoiding a new revictimization (Scortegagna & Villemor-Amaral, 2012). This practice suggestion is in consonance with a technique proposed by Finn (2007) called Therapeutic Assessment, which aims that assessment goes beyond data collection, and seeks positive changes from the answers.

Corroborating the findings of the ZSC in relation to the effects of child sexual violence on the interpersonal relationships of victims, the results of G1 showed a significant decrease in the scores of the variables GS and F2, when compared to the other two groups, of children with cancer and of non-victim children. These results indicate that children in G1 present a repertoire of smaller social skills when compared to groups of children with cancer and non-victims (Del Prette, 2017).

Considering these results with the findings of the ZSC, it is possible to suggest that the reduction of the repertoire of social skills may originate from changes in the field of human representations and that these may result from sexual violence suffered, which strengthens the use of the ZSC in this context. The decrease in resources and the weak repertoire of social skills found by the SSRS affirms the findings of the ZSC.

The increase in the variable Psychoticism in G1 (ETPC and EPQ-J) signals a greater propensity to cold, solitary, antisocial behaviors (Sisto, 2004) and a certain carelessness for the feelings of others, and a lower degree of empathy (Eysenck & Eysenck, 2013). The complementarity of this result is noted with those evidenced by the ZSC, in which human representations tend to be distorted and negative. These results allow us to infer that, for G1, the behaviors described for the variable Psychoticism act, to a certain degree, as means of defense against the recurrence of violence. In addition, as most of the children in group G1 were abused in an intrafamiliar way (n=16, 84.21%), this experience may have contributed to the difficulty of interpreting the interpersonal relationships due to the possible affectionate relationships of the victim with the perpetrator.

The complementarity between the results of the instruments (ETPC, EPQ-J, SSRS) refers to the assumptions of consequential validity (Bornstein, 2017). The measurement of a construct by different methods, self-report and projective, in different groups and the achievement of similar results points to the psychometric solidity and the consequent validity of a

test. The convergence of the results between the instruments obtained in the results of G1 indicates problems in interpersonal relationships and reinforces the potential use of the CSZ in the evaluation of this construct in children victims of sexual violence.

Conclusions

The results presented by the ZSC show promising results in the evaluation of victims of child sexual violence. The decrease in the GHR score and the increase in PHR, p, and MOR scores evidenced impaired interpersonal relationships and self-image characteristics in children in G1, differentiating them from the group of non-victims. The increased Bl variable also presented itself as an important discriminant for this group, suggesting the symbolization of the traumatic.

The comparison of the results of the ZSC with the results of the other instruments converged to the understanding of social impairments and personality development and corroborated the findings of the ZSC, offering evidence of consequential validity. The decrease in SSRS GS and F2 scores, indicating a low repertoire of social skills, and the increase in Psychoticism (ETPC, EPQ-J) agreed with the results presented by the ZSC on the negative effects of child sexual violence, demonstrating that this tool has potential for use in crime contexts.

Although this study presents relevant contributions to the evaluation of victims of sexual violence with the use of the ZSC, it is important to observe at least three limitations. First, the reduced sample number, even though it met the requirements for statistical analysis, does not allow the generalization of the results. According to cultural aspects may focus on changes in these results, symbolisms specific to other cultures and the concept or acceptance of practices considered as child sexual violence can influence responses. Victims from other cultures may present different responses and with this, other variables may also be representative of these groups. Third, the evolutionary period of the life cycle and the maturational characteristics consistent with the period need to be considered. Children and adolescents in different evolutionary periods the sample evaluated in this study may present different results.

Finally, it is suggested that the follow-up of studies using the ZSC R-Optimized application in larger samples; other groups such as children with cancer or people who have been victimized by other physical diseases, and also, compared to children who have experienced other types of violence or maltreatment. These populations have a still deficient literature and new studies may or may not demonstrate the usefulness of the instrument in the evaluation of other clinical contexts.

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