INTERCULTURAL STUDIES WITH THE RORSCHACH TEST OF CHILDREN AND ADOLESCENTS

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Abstract: Little is known about regional differences in the country regarding performance in Rorschach CS. Objective: to compare the Rorschach normative data for children and adolescents from different Brazilian States. Participants: 371 nonpatient children ages ranging from 5 to 12, 73 nonpatient adolescents ages 13-14. Procedures: The children and adolescents were compared on 57 variables by t-tests and T-scores. For the latter, we investigated whether Brazilian groups presented different performances (T score≥ -5 or +5), having as their parameters the average performances of international samples (ages 5 to 9, 8 to 12, 5 to 18) in T-scores for equivalent age groups (Meyer, personal communication). Results: Through the T-score, we found significant differences in 6 variables between ages 8 to 12 and 7 variables between ages 5 to 9. In adolescents (13 and 14) we found differences in 7 variables. In the article we will discuss the differences obtained while also considering the risk of Type I statistical errors in the exploratory analyses. Conclusion: Children show more variability in general, and it is difficult to say what is cultural; adolescents from São Paulo show themselves as more daring which is in line with living in a very big city. Despite the differences the samples can be grouped to form national samples and additionally show many similarities to international samples.

Keywords: Intercultural Research. Rorschach Test. Personality.

Resumo: Pouco se sabe sobre as diferenças regionais no país quanto ao desempenho no Rorschach SC. Objetivo: comparar os dados normativos do Rorschach para crianças e adolescentes de diferentes estados brasileiros. Participantes: 371 crianças não pacientes com idades entre 5 e 12 anos, 73 adolescentes não pacientes com idades entre 13 e 14 anos. Procedimentos: as crianças e adolescentes foram comparados em 57 variáveis por meio do teste t de student e T-scores. Para este último, investigamos se os grupos brasileiros apresentavam diferentes desempenhos (T score≥ -5 ou +5), tendo como parâmetros os desempenhos médios de amostras internacionais (idades de 5 a 9, 8 a 12, 5 a 18) em T-pontuações para faixas etárias equivalentes (Meyer, comunicação pessoal). Resultados: através do T-score encontramos diferenças significativas em 6 variáveis entre as idades de 8 a 12 anos e 7 variáveis entre as idades de 5 a 9 anos. Nos adolescentes (13 e 14 anos) encontramos diferenças em 7 variáveis. No artigo discutiremos as diferenças encontradas, considerando também o risco de erros estatísticos do Tipo I nas análises exploratórias. Conclusão: as crianças apresentam mais variabilidade em geral e é difícil dizer o que é cultural; os adolescentes paulistas se mostram mais ousados, o que condiz com a vida em uma cidade muito grande. Apesar das diferenças, as amostras podem ser agrupadas para formar amostras nacionais e, adicionalmente, apresentam muitas semelhanças com amostras internacionais.

Palavras-chave: Pesquisa Intercultural. Teste de Rorschach. Personalidade.

Introduction

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One of the most important considerations in psychological assessment is the extent to which a test is free of bias and fair for groups with diverse backgrounds. Studying the cross-cultural differences of a test is a prerequisite for meaningful comparisons between groups, as they investigate whether the tests work similarly or differently between groups. Demonstrating cross-cultural similarities or differences is particularly important in assessment settings where test results are used in decision-making. Intercultural studies have shown the need for research in different countries for the use of psychological tests. Comparisons between the normative data of different cultures can be used to describe cultural differences. The references are not always universal and normative and validity researches must be referenced to the population in focus (COHEN; SWERDLIK; STURMAN, 2014; URBINA, 2007).

In 2007 the Journal of Personality Assessment dedicated a special issue to comparing the standards of the Exner Comprehensive System in different countries. International standards were established by Meyer, Erdberg and Shaffer (2007), comprising samples from 17 countries, including Brazil. By means of Score T sufficient similarity was noticed to be able to establish an average performance of the various countries, thus setting up an international descriptive of statistics or international standards. The same construction procedure for international standards for adults was applied to establish the rules for children. However, this procedure proved unfeasible (MEYER; ERDBERG; SHAFFER, 2007). And the data of children and adolescents aged 5 to 16, from five different countries (Denmark, USA, Italy, Japan and Portugal), were correlated and statistically significant differences between the groups indicated that in them the performance is far less homogeneous and more unstable than in adult protocols, even considering groups with the same age or different samples of the same country.

We can point out two studies with the Rorschach in Brazil who consider juvenile samples from the same town but from different educational backgrounds: public versus private. In Brazil, the school origin is closely related to differences in socioeconomic levels, and the particular school is attended by students from more advantaged socio-economic level. Ribeiro, Semer and Yazigi (2012) found that children from private schools were significantly more productive, better ability to handle more complex emotional situations, however, were more stressed than children in public schools. This same trend was observed in São Paulo: the teenagers from private schools reveled more efficient psychological resources to face

challenges, both cognitive and affective, specially considering the variable Complexity in Rorschach. (NASCIMENTO et al., 2016).

To Ritzler (2004) living with and easier access to the most advanced technologies can be one possible factor that confuses the results of cross-cultural and multicultural research. According to the author, many studies with the Rorschach that ensure the identification of cultural differences seem to have modernity as the main phenomenon to justify the differences. In such cases any observed differences can result before the effects of modern than other cultural influences. Anyway, a method of underdeveloped research is to compare Rorschach results – and other tests – in different regions of the same country.

In Brazil, both normative studies of children (Cuiabá and Goiânia) and adolescents (Goiânia and São Paulo) were simultaneously developed by the authors of this study. In this country – of continental dimensions and big cultural differences – usually normative research is conducted in a single State or even in a single city and little do we know about the regional differences looking through the results.

In this study, normative data from three capitals with very different characteristics were analyzed:

Table 1 – HDI: Human Development Index

Variables/Cities	Cuiabá	Goiânia	São Paulo
Age of the city (in yrs)	300	85	465
Region	Midwest	Midwest	Southwest
Number of Inhabitants	623.000	2,2 M	19 M
Predominant ethnic group and migration movement	White (internal)	White (internal)	White (external and internal)
HDI	0,767	0,799	0,805
Economy	Agribusiness (Pantanal)	Services Industry	Industry Commerce

Source: Research Data (2017).

The sociocultural differences between the three regions studied are very big despite the fact that São Paulo has the State of Goiás (Goiânia) on its northern boundary and that the State of Goiás and Mato Grosso (Cuiabá) border each other. As they are different cities, we wonder if we could establish normative parameters with the integrated samples.

Objectives

To compare results of different normative research with the Rorschach method (CS), taking age as a reference criteria.

METHOD

Participants

The sample consists of 371 children aged 5 to 12 (from Cuiabá and Goiânia); 73 adolescents aged 13 to 14 (from Goiânia and São Paulo). All participants were nonpatients and students from public and private schools. It was assumed that participants from public schools would be primarily representing the lower and lower middle socioeconomic classes, and children from private schools would be representing the middle, upper middle and upper classes. The aim was to include children from different social strata homogeneously, even though this is not the representativeness of the population.

Table 2 – Distribution of participants

Sample	Cuiabá	Goiânia	São Paulo	Total
Children 05–06	–	40	–	**40**
Children 07–10	211	80	–	**291**
Children 11–12	–	40	–	**40**
Adolesc. 13–14	–	41	32	**73**
Total	**211**	**201**	**32**	**444**

Source: Research Data (2017).

PROCEDURES

Research design

Comparative studies of samples in 57 variables of the Rorschach method, considering their ages.

1) Student's t and Cohen's d to compare children and adolescents from different cities, taking their ages as the parameter;
2) In order to correct the results based on the number of variables studied a "Multistage Testing Procedure" (MTP) was conducted on the adolescent samples for Student's t comparisons;

3) For the same samples we performed Score T, using international references divided by ages. That is, the normative data of an international sample of children and adolescents, not included in the sample of this study, as similar ages, were used as a parameter of average performance. When the difference between the analyzed variables between two groups were greater than +5, or less than -5 in T-score (Meyer, Erdberg and Shaffer, 2007), it was considered that the performance between the groups in the Rorschach were different.

Ethical Considerations

The present study was approved by the Research Ethics Committee of each of the Universities of origin of the responsible authors. The research was also consented by the principals of the schools and by the parents or guardians, as well as the consent of each of the participating children and adolescents.

RESULTS

Comparison between children from Goiânia (GO) and Cuiabá (MT)

As the difference between the number of responses (R) was considered significant and the effect size considered as medium, it was decided to compare the test variables considering R (variable / R).

Table 3 – Significant Differences in Student's t and Cohen's d for the variable / R in children aged 7 to 8

Variable	GO (N=40) Mean	MT (N=103) Mean	Results p	d
R	18,2	16,2	< 0,05	0,40

Source: Research Data (2017).

Table 4 – Significant Differences in Student's t and Cohen's d for the variable R in children aged 9 to 10

Variable	GO (N=40) Mean	MT (N=103) Mean	Results p	d
R	17,6	16,4	0,054	0,38

Source: Research Data (2017).

Table 5 – Significant Differences in Student's t and Cohen's d among children from Goiânia and Cuiabá aged 7 to 8

Variable	Goiânia		Cuiabá		Results	
	M/R	DP	M/R	DP	p	d
Dd	.13	.11	.20	.14	,004	0.50
S	.11	.08	.07	.08	,012	0.48
DQp	.24	.15	.14	.15	,001	0.65
M	.09	.07	.04	.06	,002	0.64
C	.01	.03	.04	.06	,001	0.48
SumY	.02	.03	.04	.06	<,001	0.52
SumSh	.06	.06	.09	.08	,013	0.42
Active	.19	.14	.12	.13	,009	0.52
Passive	.10	.08	.07	.07	,025	0.45
Pair	.34	.16	.23	.17	<,001	0.69
HHdHd	.23	.12	.17	.12	,006	0.51
(H)+Hd+(Hd)	.14	.08	.10	.09	,019	0.43
ZSum	1.70	.68	1.26	.77	,001	0.60
Zf	.54	.19	.44	.21	,008	0.48
GHR	.15	.08	.08	.08	<,001	0.84
Ego	.02	.01	.01	.01	,011	0.48
XA%	.76	.09	.61	.14	<,001	1.19
X+%	.44	.14	.38	.13	,026	0.44
X-%r	.22	.10	.37	.14	<,001	1.12
Xu%	.32	.12	.22	.11	<,001	0.83
EII_2	-.21	.68	.17	.62	,003	0.60
TotPTI	.03	.05	.10	.09	<,001	0.95
Complexity	46.95	15.12	35.34	13.59	<,001	0.83

Source: Research Data (2017).

Table 6 – Student's t and Cohen's d among children from Goiânia and Cuiabá aged 9 to 10

Variables	Goiânia		Cuiabá		Results	
	M/R	DP	M/R	DP	p	d
W	.35	.17	.26	.17	,004	0.54
Dd	.15	.12	.22	.14	,002	0.54
CF	.07	.07	.03	.05	,005	0.63
SumY	.02	.04	.04	.06	,004	0.47
Pair	.36	.14	.26	.18	<,001	0.61
ZSum	1.46	.64	1.21	.71	,042	0.36
Lambda	2.25	2.63	3.50	3.99	,029	0.34
Ego	.03	.01	.02	.01	,006	0.45
XA%	.75	.10	.65	.13	<,001	0.77
X+%	.50	.14	.41	.12	,001	0.65
X-%	.24	.10	.34	.13	<,001	0.81
EII_2	-.27	.64	.09	.68	,004	0.53
TotPTI	.04	.077	.08	.081	,003	0.56

Source: Research Data (2017).

Children from Cuiabá, regardless of age, respond with less sophisticated cognitive processing, with lower planning capacity, judgment and decision making (Complexity, ZSum, Zf↓, Dd, Lambda, EII_2 and PTI ↑), also showing more situational anxiety (Y↑). Their peers in Goiânia respond with more complexity, conventionality, flexibility to cope with the

demands of life and reply to the challenges (Complexity, W, S, XA%, X+%, Ego and Pair↑). We can notice that as chronological age increase, discrepancies decreased from 23 variables among children aged 7 and 8 to 13 variables among children aged 9 and 10. The same decrease was found by other analyzes done: correction of Multistage Testing Procedure - MTP (FAIRBANKS; MADSEN, 1982) and T-Score. With the MTP correction 10 variables kept a significant difference between samples of ages 7 and 8 (DQ+, Pair, ZSum, Zf, GHR, XA%, X-%, Xu%, Total PTI and Complexity) and another 4 variables kept a significant difference between samples of ages 9 and 10 (Pair, Ego, XA%, X-%). Regardless of statistics used in these analyzes the question of the adjustment of perception remained fairly consistent among children from both States. The children from Goiânia tend to regard and interpret their experiences in a more appropriate manner (XA% – extended form appropriate), whilst children from Cuiabá showed a more idiosyncratic perception (X-%).

Due to the big differences between the 2 samples and with a large number of variables in the statistical study, we sought to equate our study with those of other countries. For this we carried out a comparison study with children matched by age, using the T score between the two national samples, taking the T score of the international sample conducted by Meyer as the parameter.

Table 7 – T-scores between children from MT and GO taking the international sample ages 5 to 9 as the parameter

Variables	MT 7-9		GO 5-9		International 5-9		T MT	T GO	**MT-GO**
	M	DP	M	DP	M	DP			
SumY	0,72	1,04	0,27	0,55	0,41	0,86	53,61	48,32	5,29
GHR	1,47	1,36	2,60	1,47	2,31	2,00	45,81	51,47	-5,66
Ego	0,25	0,19	0,36	0,25	0,26	0,16	49,55	56,17	6,62
XA%	0,63	0,14	0,76	0,10	0,63	0,14	49,83	59,21	-9,39
Xu%	0,23	0,11	0,30	0,11	0,28	0,12	45,76	51,41	-5,65
X-%	0,36	0,14	0,23	0,10	0,36	0,13	49,83	40,31	9,53
PTI Total	1,51	1,29	0,60	1,09	1,83	1,37	47,61	41,01	6,60

Table 8 – T-scores between children from MT and GO taking the international sample ages 8 to 12 as the parameter

Variables	MT 8-10		GO 8-12		International 8-12		T MT	T GO	MT-GO
	M	DP	M	DP	M	DP			
Ego	0,27	0,19	0,38	0,15	0,30	0,17	48,22	54,49	6,27
XA%	0,64	0,14	0,75	0,10	0,69	0,13	46,01	55,16	9,15
X+%	0,41	0,13	0,49	0,14	0,40	0,13	50,84	57,12	6,28
X-%	0,35	0,14	0,23	0,10	0,31	0,13	53,33	44,12	-9,21
PTI Total	1,43	1,26	0,62	1,11	1,49	1,40	49,63	43,80	-5,83

Source: Research Data (2017).

The main differences between the children from the two regions, in both age groups are related to the accuracy of perception. Children from Cuiabá tend to be far less conventional and to have more distortions in the perception of reality than children from Goiânia. However, this distortion shown by the children from Cuiabá is more common at this age and closely resembles distortions shown by groups of children from the international samples. In addition, the children from GO showed more balance between attention given to themselves and others than the children from MT and from the international sample (Ego Index).

Children from GO aged 5-9 show less situational anxiety and higher predisposition to friendly interactions than children from MT aged 7 to 9. In these two aspects (Sum Y and GHR) the children from GO were closer to the performance of the international sample of children (aged 5 to 9). Once again, we notice that the number of variables with significant differences in younger children tend to be higher.

Comparison among adolescents aged 13 and 14 from SP and GO

Table 9 – Student's t and Cohen's d for the variable R

Variable	SP (N=32) Mean	GO (N=41) Mean	Results p	d
R	22,16	20,66	0,396	0,20

Source: Research Data (2017).

With no significant difference, and with a small effect size, between the number of responses (R), the calculations were done with the mean and not with the mean divided by response (Variable/R).

Table 10 – Significant Differences in Student's t and Cohen's d of adolescents aged 13-14 from Goiânia and São Paulo

Variables	São Paulo (N = 32)		Goiânia (N = 41)		Results	
	M	DP	M	DP	p	d
DQv	0,97	1,33	0,32	0,57	0,006	0,67
MOR	1,56	1,63	0,56	0,95	0,002	0,78
WSum6	10,69	7,13	2,63	3,34	<0,001	1,51
Intellect	1,69	2,19	0,59	0,74	0,004	0,71
X+%	0,45	0,15	0,55	0,14	0,009	0,64
Xu%	0,31	0,10	0,24	0,10	0,004	0,70
Complexity	62,16	24,31	51,39	18,74	0,043	0,50
CF	1,59	1,13	0,98	1,21	0,028	0,52
C	0,53	0,80	0,17	0,38	0,013	0,60
WSumC	3,09	2,13	1,83	1,61	0,005	0,68
SumV	0,31	0,64	0,07	0,35	0,046	0,48
SumY	1,25	1,16	0,66	1,09	0,030	0,53
Blends	2,94	0,49	1,56	1,60	0,006	0,67
EA	6,19	3,71	4,34	2,60	0,015	0,59
Es	7,00	5,00	4,88	3,59	0,048	0,50
EII_2	0,23	0,96	-0,46	0,67	0, 001	0,86
TotDEPI	3,81	1,45	3,02	1,19	0,016	0,60

Source: Research Data (2017).

The adolescents from Goiânia had higher adjustment and conventionality rates. The adolescents from São Paulo were more complex, more emotionally expressive more prone to emotional maladjustments and showed more thought distortions (Complexity, WsumC, SumY, SumV, es, WSum6, DEPI and EII_2 ↑). However, considering the large number of variables statiscally analyzed, we can assume there is an excess of significant differences which need correction for more accuracy.

With the Multistage Significance Testing (MTP) correction (FAIRBANKS; MADSEN, 1982) and based on the number of variables studied, only Wsum6 kept the difference, precisely the one which showed the most significant difference analyzed between the means and the highest Cohen's d value ($p < 0.001$, $d = 1.51$). To match our study with other international studies we also decided to apply the T-score as performed in the children's study.

Table 11 – Significant Differences in T-Scores among adolescents from São Paulo and Goiânia taking the mean international sample, ages 12 to 18, as the parameter

Variables	SP 13-14		GO 13-14		International 12-18		T SP	T GO	SP-GO
	M	DP	M	DP	M	DP			
C	0,53	0,17	0,17	0,38	0,19	0,55	56,26	49,65	6,61
WSumC	3,09	2,13	1,83	1,61	2,85	2,29	51,08	45,55	5,53
MOR	1,56	1,63	0,56	0,95	0,91	1,21	55,37	47,08	8,29
WSum6	10,69	7,13	2,63	3,34	7,21	7,35	54,73	43,77	10,96

Source: Research Data (2017).

This study had the mean international sample, ages 12 to 18, as the parameter (MEYER; ERDBERG; SHAFFER, 2007). We found more differences than with the Multistage Testing Procedure but to a lesser extent than with the Student's t.

The procedures with T -Score show that only one result exceeded the value 55 in SP (56.26 to Pure C) and a result lower than 45 in GO (43.77 to WSum6), values as recommended by Meyer, Erdberg and Shaffer (2007) as a good indication of proximity between samples, in this case, with the International sample which is the benchmark. The other results are all very close to 50. We also found very few results among the two Brazilian samples with differences higher than 5.0. Only 4 variables were conflicting: reinforcing the predisposition of young people in SP to express their ideas and feelings more freely than young people in GO.

The differences between SP and GO (SP-GO) are due to the means of these two cities which show opposite directions to one another and by using the international means as reference.

Discussion

The larger the urban centers the younger people showed a higher tendency to respond in a more complex way with more resources and flexibility to deal with daily demands and with more emotional involvement. Another finding was that discrepancies decrease as chronological age increases and psychological development tends to be more stable and similar among the older children from different cultures. We mean, with increasing age, performance in the Rorschach is more likely to be more homogeneous across individuals, and many Rorschach scores tend to come to be more constant over the age from adolescence (EXNER, 2003; MEYER et al., 2007; NASCIMENTO et al., 2017).

With respect to the Ritzler (2004) point of view, living with and easier access to the most advanced technologies can be one possible factor that confuses the results of cross-cultural and multicultural research. Children from private schools and who live in major urban centers, in fact have easier access to the most varied and advanced technologies, whether at school or in relation to toys and different ways to pass the time. In such cases we believe that some observed differences can result before the effects of modernity than other cultural influences.

Conclusion

The proximity of the Brazilian results with those of the international sample became evident. The Multistage Testing Procedure and Score-T studies indicated the possibility of grouping the Brazilian samples but the Student's t better indicated the cultural diversities. Children showed more regional peculiarities in the way they respond to Rorschach and when advancing development discrepancies between different locations decreased.

This study showed interference of cultural factors in the way people respond to the Rorschach method but we also noticed a lot of similarities in children and adolescents from different Brazilian States, each one with different developmental stories and with very diverse regional factors.

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