Original Article

The Comparison of Iranian Normative Reference Data with Five Countries across Variables in Eight Rorschach Comprehensive System (CS) Clusters

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Objective: This study aimed to provide a normative study documenting how 114 five-seven year-old non-patient Iranian children respond to the Rorschach test. We compared this especial sample to international normative reference values for the Comprehensive System (CS).
Method: One hundred fourteen 5- 7- year-old non-patient Iranian children were recruited from public schools. Using five child and adolescent samples from five countries, we compared Iranian Normative Reference Data- based on reference means and standard deviations for each sample.
Results: Findings revealed that how the scores in each sample were distributed and how the samples were compared across variables in eight Rorschach Comprehensive System (CS) clusters. We reported all descriptive statistics such as reference mean and standard deviation for all variables.
Conclusion: Iranian clinicians could rely on country specific or "local norms" when assessing children. We discourage Iranian clinicians to use many CS scores to make nomothetic, score-based inferences about psychopathology in children and adolescents.

Key words: *Comprehensive System, Iranian Normative Data, Rorschach test*

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Establishing accurate normative data for the Rorschach (1) Comprehensive System method (CS; 2) is crucial to its use in clinical practice. As with other tests, Rorschach interpretation rests on (a) quantitative, nomothetic normative comparisons, and (b) qualitative idiographic, individualized inferences. Thus, evaluating deviations from normative expectations is a central component in quantitative interpretation.

However, the adequacy of the CS adult and child reference values (2) has been discussed and debated in the literature over the past decade, both with respect to samples from the U.S. (e.g., 3; 4; 5) and other countries (e.g., 6; 7; 8; 9; 10). The available CS norms for children and adolescents were first published in 1982 (11). At the time, the authors questioned how representative their samples were, cautioning users that as a result of likely self- and parent-selection biases they were probably too healthy and well-functioning to generalize to typical participants. Therefore, it is of prime importance to identify what more recently collected samples look like when plotted on the Adult Composite International Norms.

A study that sparked concern about the standard CS reference values was Shaffer et al.'s (1999) sample of 123 adults from Fresno, California (4). These participants were tested by graduate students, that Weiner (2001) questioned as a suitable level of training and experience to serve as a reference sample (12). Nonetheless, because both the Fresno sample and the traditional CS norms were obtained from non-patients in the U.S., any disparities between them were notable. In particular, Shaffer et al. Reported many shorter and more simplistic records than the existing CS norms. For instance, their sample had a mean R = 20.8 (versus 23.5 in the CS norms) and a mean Lambda = 1.22 (vs. 0.58), with 41% of their sample classified as having an avoidant style (i.e., Lambda > 0.99; vs. 14%).

Wood et al. (2001a, 2001b) showed that a number of non-patient samples from the literature produced notably different mean values from the CS norms (CS 600), with effect sizes ranging from small to very large. Form quality (FQ)-related (i.e., XQ%, X–%) and color-related variables (i.e., Afr, FC, WSumC), as well as

popular (P), whole, realistic human content (Pure H), diffuse shading (Y), and reflection (Fr, rF) responses were the most problematic variables (5). Other empirical evidence also showed that the distributions for form quality (FQ) and number of responses (R) might diverge from the CS normative expectations in non-patient samples (11).

Meyer et al. (2007) presented descriptive data from 4,704 Rorschach records from non-patient samples from Argentina, Australia, Belgium, Brazil, Denmark, Finland, France, Greece, Israel, Israel, Italy, Japan, Peru, Portugal, Romania, Spain, the Netherlands, and the United States (13). The mean age of the entire, combined sample was 36.65 (SD = 11.71). Years of education, gender, and race were not reported. Analyses of these international data revealed that both the CS 450 collected by Exner and Erdberg (2005) and the CS 600 collected by Exner (2001) diverged from most of the other samples for a large proportion of the variables (14) (15). Applying CS 600 interpretive routines to all these samples may result in pathologized interpretation of these non-patients. Viglione and Meyer (2008) summarized the recurring main differences between the CS 600 and other samples and reported that other samples frequently produced more unusual location responses, inferior form quality, fewer elaborated, positive human representations, less color, and fewer texture responses (16). To provide the Iranian Rorschach users with more representative normative benchmarks and to reduce the risk of overly pathological interpretations, we presented an Iranian normative reference sample. In this study, we extended the previous analyses in several ways. First, we reported data collected for 5 to 7 year-old Iranian children. Second, we utilized international normative reference values for the CS for children and adolescents (2). Third, and most important, we focused on the extent to which international normative reference values for the CS correspond to Iranian sample.

Materials and Method

Participants

The sample for this study consisted of 114 non-patient Iranian children aged 5 -7 who were recruited from public schools. Recruitment began with identifying an area of Tehran that has numerous schools and is demographically representative of its population. Within this area, 15 public schools and five kindergartens were randomly selected. The principals of the schools sent a letter to the parents in which they described the purpose of the study–to collect normative reference data on a psychological test–and asked them to sign and return the letter if they agreed to have their children participate in the study. Before sending the letters, the principals reviewed their school records and removed from the list any students who had been identified as having psychological problems. Similarly, the parents were asked not to sign and return the letter of agreement if their child had been diagnosed with or treated for any psychological disorder within the last two years or had undergone psychological testing within the past year. Approximately 90% of the parents signed the letter. Children's participation in the study was voluntary and required their consent as well as their parents' approval. The final sample of 114 participant's included 49 (43%) boys and 65 (57%) girls.

Procedures

The Rorschach data were collected by 15 examiners; all of whom were graduate students of the Allameh Tabatabaei University, who have completed an assessment course that included instruction in the administration, coding and interpretation of the Rorschach; and they were currently enrolled in a two-year Rorschach research practicum co-mentored by the second author. All of the examinations were conducted in Farsi in the counseling rooms of the students' school, following a brief warm-up and the completion of a short semi-structured interview. The Rorschach administration was conducted according to Exner's (2003) Comprehensive System instructions, including his procedures for obtaining at least 14 responses and avoiding excessively long protocols (2).

Samples and Procedures for Comparison

In 2007, a supplemental issue of the Journal of Personality Assessment was devoted to international normative data for Rorschach Comprehensive System. In this special issue, a number of investigators collected 39 samples from 17 countries (18). These international reference data included samples of children and adolescents from Denmark (19), Italy (20), Japan (21) Portugal (22) and United States (CS; 2). Subsequent publications have presented Rorschach reference data on samples of non-patient children in Brazil (23) and adolescents in Israel (24). The samples differed in their quality (e.g., examiner training, scoring reliability, and checks on administration quality); however, motivated and trained individuals seeking to advance the database of Rorschach assessment collected all the data.

To compare normative reference values for the CS, we used the Four Children Samples published in special issue of the Journal of Personality Assessment in 2007 (JPA, 89, Suppl.1). Countries that reported normative data were Italy (20), Japan (21), Portugal (22), Brazil (23) and traditional CS reference data (2).

Result

Table 1 demonstrates descriptive statistics for each Rorschach variable. Using the descriptive data in Table 1, we reported all descriptive statistics such as reference mean and standard deviation for all variables.

Table1. Descriptive Statistics for Non-Patient Iranian Children Aged 5-7 (N = 114) a

5-6-7 years (N = 114)									
Variable	**Mean**	**SD**	**Min**	**Max**	**Freq**	**Median**	**Mode**	**SK**	**KU**
R	21.60	5.33	14.00	36.00	114	20	17	0.71	-0.09
W	7.12	4.08	1.00	23.00	114	6	4	1.02	1.16
D	11.25	5.88	0.00	25.00	112	11	15	0.15	-0.61
Dd	3.18	2.41	0.00	18.00	103	3	2	2.22	11.32
S	1.09	1.31	0.00	6.00	64	1	0	1.96	4.50
DQ+	2.18	2.48	0.00	10.00	77	1	0	1.23	0.72
DQo	16.37	5.84	5.00	33.00	114	15.5	12	0.67	0.11
DQv/+	0.10	0.35	0.00	2.00	9	0	0	3.92	15.89
DQv	2.94	2.32	0.00	11.00	98	3	3	0.90	0.78
FQx+	0.20	0.92	0.00	8.00	9	0	0	6.44	48.12
FQxo	7.28	2.91	2.00	17.00	114	7	6	0.57	0.53
FQxu	7.09	3.43	1.00	19.00	114	6	6	0.75	0.77
FQx-	5.95	3.32	0.00	18.00	113	6	4	0.70	0.65
FQxNone	1.06	1.72	0.00	7.00	46	0	0	1.81	2.54
MQ+	0.14	0.82	0.00	8.00	6	0	0	8.15	73.72
MQo	0.49	0.84	0.00	4.00	37	0	0	1.91	3.49
MQu	0.39	0.67	0.00	3.00	35	0	0	1.80	3.16
MQ-	0.31	0.70	0.00	4.00	25	0	0	2.81	8.99
MQNone	0.05	0.26	0.00	2.00	5	0	0	5.47	32.44
SQual-	0.26	0.56	0.00	3.00	25	0	0	2.66	8.64
M	1.38	1.96	0.00	13.00	67	1	0	2.70	10.87
FM	2.36	2.21	0.00	14.00	90	2	0	1.73	5.78
m	1.43	1.58	0.00	6.00	71	1	0	1.17	0.76
FC	1.08	1.31	0.00	6.00	66	1	0	1.50	2.19
CF	0.56	0.74	0.00	3.00	49	0	0	1.17	0.80
C	1.25	1.56	0.00	7.00	66	1	0	1.49	1.94
Cn	0.06	0.35	0.00	3.00	4	0	0	6.67	47.57
SumC	2.96	2.12	0.00	10.00	103	2	2	0.85	0.46
WSumC	3.02	2.42	0.00	12.00	103	2.5	2.5	1.20	1.57
FC’	0.73	1.04	0.00	5.00	51	0	0	1.65	2.83
C’F	0.27	0.66	0.00	3.00	21	0	0	2.87	8.29
C’	0.40	1.17	0.00	11.00	28	0	0	6.86	59.54
FT	0.15	0.45	0.00	2.00	14	0	0	2.96	8.28
TF	0.09	0.32	0.00	2.00	10	0	0	3.52	12.91
T	0.08	0.41	0.00	3.00	6	0	0	5.29	29.75
FV	0.10	0.35	0.00	2.00	9	0	0	3.92	15.89
VF	0.00	0.00	0.00	0.00	0	0	0		
V	0.00	0.00	0.00	0.00	0	0	0		
FY	0.02	0.13	0.00	1.00	2	0	0	7.44	54.42
YF	0.06	0.27	0.00	2.00	6	0	0	4.91	26.13
Y	0.06	0.27	0.00	2.00	6	0	0	4.91	26.13
Fr	0.01	0.09	0.00	1.00	1	0	0	10.67	114.00
rF	0.00	0.00	0.00	0.00	0	0	0		
Sum C’	1.41	1.97	0.00	15.00	70	1	0	3.43	19.26
SumT	0.34	0.64	0.00	3.00	29	0	0	1.89	2.96
SumV	0.09	0.35	0.00	2.00	9	0	0	3.92	15.89
SumY	0.14	0.45	0.00	3.00	12	0	0	3.89	17.13
Sum Shading	1.99	2.11	0.00	15.00	86	1.5	1	2.50	11.71
Fr+rF	0.01	0.09	0.00	1.00	1	0	0	10.67	114.00
FD	0.44	0.83	0.00	5.00	34	0	0	2.47	8.07
F	12.50	5.55	0.00	30.00	113	12	15	0.47	0.15

Table1 (Continue). Descriptive Statistics for Non-Patient Iranian Children Aged 5-7 (N = 114) a

5-6-7 years (N = 114)									
Variable	**Mean**	**SD**	**Min**	**Max**	**Freq**	**Median**	**Mode**	**SK**	**KU**
PAIR	6.11	3.55	0.00	16.00	109	6	7	0.31	-0.36
3r+(2)/r	0.26	0.14	0.00	0.63	110	0.27	0.14	0.16	-0.67
Lambda	2.24	2.68	0.00	15.00	113	1.33	1	2.66	7.89
PureF%	0.56	0.20	0.00	0.94	113	0.57	0.50	-0.24	-0.38
FM+m	3.77	2.93	0.00	19.00	103	3	1	1.50	5.21
EA	4.39	3.14	0.00	19.50	108	3.5	2.50	1.37	3.80
es	5.65	3.54	0.00	19.00	108	5	6	0.71	0.88
D Score	-0.32	1.28	-5.00	5.00	114	0	0	-0.18	4.27
AdjD	-0.09	1.12	-4.00	5.00	114	0	0	0.34	5.69
Active (a)	3.39	3.23	0.00	18.00	97	3	3	1.76	4.45
Passive (p)	1.72	1.91	0.00	8.00	76	1	0	1.21	0.83
Ma	0.98	1.74	0.00	12.00	53	0	0	3.29	14.74
Mp	0.39	0.69	0.00	3.00	33	0	0	1.80	2.78
Intellect	1.12	1.80	0.00	12.00	55	0	0	2.95	12.57
Zf	7.54	4.23	1.00	23.00	114	7	4	1.29	2.06
Zd	-1.89	4.81	-24.00	8.50	114	-1.75	-0.5	-0.76	3.23
Blends	1.79	2.09	0.00	9.00	74	1	0	1.25	0.75
Blends/R	0.09	0.11	0.00	0.52	74	0.05	0	1.48	1.93
Col-Shd-Blends	0.47	0.84	0.00	4.00	36	0	0	2.06	4.12
Afr	0.49	0.16	0.12	1.18	114	0.50	0.50	0.66	1.57
Populars	2.84	1.54	0.00	7.00	110	3	2	0.38	-0.44
XA%	0.67	0.14	0.31	1.00	114	0.67	0.64	-0.21	-0.34
WDA%	0.69	0.14	0.21	1.00	114	0.70	0.64	-0.40	0.10
X+%	0.35	0.14	0.08	0.78	114	0.35	0.25	0.29	-0.03
X-%	0.26	0.13	0.00	0.63	113	0.27	0.33	0.30	-0.32
Xu%	0.32	0.13	0.04	0.69	114	0.32	0.25	0.11	-0.05
Isolate/R	0.18	0.17	0.00	0.76	96	0.14	0	1.19	1.31
H	1.46	1.63	0.00	9.00	80	1	1	1.86	4.49
(H)	0.96	1.26	0.00	6.00	59	1	0	1.68	3.16
HD	1.21	1.72	0.00	10.00	64	1	0	2.31	6.77
(HD)	0.23	0.73	0.00	5.00	16	0	0	4.49	23.15
Hx	0.32	0.71	0.00	4.00	24	0	0	2.66	7.94
All H Cont	3.87	2.73	0.00	14.00	108	4	4	1.25	2.34
A	8.57	4.10	0.00	23.00	111	8	8	0.54	0.73
(A)	0.34	0.68	0.00	4.00	29	0	0	2.57	8.17
Ad	1.58	2.42	0.00	12.00	57	0.50	0	2.02	4.30
(Ad)	0.02	0.16	0.00	1.00	3	0	0	5.99	34.57
An	0.50	0.90	0.00	4.00	34	0	0	1.97	3.59
Art	0.61	1.02	0.00	5.00	43	0	0	2.28	6.06
Ay	0.02	0.13	0.00	1.00	2	0	0	7.44	54.42
BI	0.14	0.51	0.00	3.00	10	0	0	3.66	13.210
Bt	1.16	1.40	0.00	6.00	63	1	0	1.19	0.79
Cg	1.24	1.39	0.00	6.00	72	1	0	1.37	1.79
CI	0.03	0.22	0.00	2.00	3	0	0	7.15	54.66
Ex	0.04	0.20	0.00	1.00	5	0	0	4.51	18.70
Food	0.37	0.75	0.00	4.00	30	0	0	2.60	8.21
Fi	0.64	1.10	0.00	6.00	44	0	0	2.41	7.00
Ge	0.01	0.09	0.00	1.00	1	0	0	10.67	114.00
Hh	0.61	0.90	0.00	4.00	45	0	0	1.59	2.04
Ls	0.69	1.09	0.00	5.00	46	0	0	1.90	3.34
Na	0.85	1.24	0.00	6.00	55	0	0	2.05	4.87

Table1 (Continue). Descriptive Statistics for Non-Patient Iranian Children Aged 5-7 (N = 114) a

5-6-7 years (N = 114)									
Variable	**Mean**	**SD**	**Min**	**Max**	**Freq**	**Median**	**Mode**	**SK**	**KU**
Sc	1.07	1.22	0.00	6.00	69	1	0	1.48	2.62
Sx	0.01	0.09	0.00	1.00	1	0	0	10.67	114.00
Xy	0.02	0.20	0.00	2.00	2	0	0	8.53	76.01
Idiographic	0.71	1.13	0.00	5.00	44	0	0	1.74	2.39
An+Xy	0.51	0.91	0.00	4.00	34	0	0	1.91	3.30
DV	0.53	0.99	0.00	6.00	38	0	0	2.73	9.43
INCOM	1.14	1.42	0.00	9.00	67	1	0	2.12	7.46
DR	0.24	0.69	0.00	4.00	17	0	0	3.42	12.37
FABCOM	0.28	0.63	0.00	4.00	25	0	0	3.13	12.77
DV2	0.03	0.18	0.00	1.00	4	0	0	5.12	24.65
INC2	0.23	0.62	0.00	4.00	18	0	0	3.26	12.64
DR2	0.03	0.18	0.00	1.00	4	0	0	5.12	24.65
FAB2	0.02	0.13	0.00	1.00	2	0	0	7.44	54.42
ALOG	0.71	1.12	0.00	6.00	49	0	0	2.37	6.78
CONTAM	0.06	0.27	0.00	2.00	6	0	0	4.91	26.13
Sum 6Sp Sc	3.27	2.52	0.00	15.00	103	3	2	1.64	4.61
Lvl 2 Sp Sc	0.28	0.63	0.00	3.00	22	0	0	2.27	4.48
WSum6	9.74	8.01	0.00	39.00	104	8	6	1.23	1.41
AB	0.24	0.73	0.00	6.00	18	0	0	5.01	33.53
AG	0.23	0.67	0.00	4.00	17	0	0	3.47	13.21
COP	0.20	0.61	0.00	3.00	15	0	0	3.62	13.51
CP	0.02	0.13	0.00	1.00	2	0	0	7.44	54.42
Good HR	2.20	1.72	0.00	10.00	95	2	2	1.16	2.85
Poor HR	2.21	2.30	0.00	10.00	89	1	1	1.57	2.56
MOR	0.72	1.45	0.00	3.00	40	0	0	3.21	12.69
PER	0.47	0.88	0.00	4.00	36	0	0	2.42	6.19
PSV	0.42	0.79	0.00	3.00	32	0	0	1.93	3.03
PTI Total	1.28	1.13	0.00	4.00	76	1	0	0.42	-0.66
DEPI Total	2.97	1.35	0.00	6.00	106	3	3	-0.41	0.23
CDI Total	3.29	1.14	0.00	5.00	112	3	4	-0.66	0.17
SCon Total	3.17	2.41	0.00	7.00	83	4	0	-0.09	-1.39
HVI Total	0.39	0.79	0.00	4.00	28	0	0	2.18	4.70
OBS Total (1-5)	0.25	0.48	0.00	2.00	25	0	0	1.86	2.72
EII-3	0.42	0.63	0.00	2.50	62	0.10	0	1.79	2.65
HRV	-0.18	2.81	-9	6.00	97	0	1	-0.776	1.66
W+D	18.33	4.92	10.00	34.00	114	17.5	14	0.73	0.16
EBPer	0.49	1.34	0.00	6.50	16	0	0	3.00	8.86

a. The Comprehensive System codes that correspond to the variable names in the first column are as follows: Number of Responses (R); Lambda (L); Human Movement (M); Weighted Sum of Color (WSumC); Experience Actual(EA); Animal Movement (FM); Inanimate Movement (m); Nonhuman Movement (FM + m); Diffuse Shading (SumY); Texture (SumT); Vista (SumV); Achromatic Color (SumC'); Sum of Shading (SumShd); Experienced Stimulation (es); Difference Score (D Score); Adjusted Difference Scale (AdjD); Coping Style (Erlebnistypus, EB); White Space (S); Color Projection (CP); Form-Color Ratio (CF+C: FC); Pure Color (Pure C); Affective Ratio (Afr); Complexity Ratio (Blends:R); Constriction Ratio (SumC':WSumC); Aggressive Movement (AG); Cooperative Movement (COP); Food (Fd); Personal (PER); Active:Passive Ratio (a:p or Ma:Mp); Whole, Realistic Humans (Pure H or H: (H) + Hd + (Hd)); Interpersonal Interest (SumH H+ (H)+Hd+ (Hd)); Good and Poor Human Representations (GHR and PHR); Morbid (MOR); Anatomy and X-ray (An + Xy); Reflections (Fr + rF); Form Dimension (FD); Synthesized Response (DQ+); Vague Response (DQv); Perseveration (PSV); Organizational Frequency (Zf); Processing Efficiency (Zd); Aspiration Ratio (W:M); Economy Index (W:D:Dd); Form Quality Scores: Conventional (X+%), Appropriate (WDA%), Unusual (Xu%), Distorted (X%); White Space Distortion (S); Popular (P); Human Movement With Distorted Form (M); Human Movement, Formless (Mnone); Critical Special Scores (Sum6 or WSum6); and Critical Special Scores, Severe (Level 2)

Table2. Rorschach Variable Frequencies for 114 Non-patient Iranian Children and Four Country

	Iran 5-7 N=114		Italy 5-7 N=75		Japan 5-6 N=24		Portugal 6-7 N=155		Brazil 7 N=50	
Styles	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
Introversive	8	7	7	9	0	0	7	5	0	0
Pervasive Introversive	5	4	4	5	0	0	4	3	0	0
Ambitent	13	11	13	17	0	0	6	4	2	4
Extratensive	20	18	4	5	0	0	12	8	7	14
Pervasive Extratensive	10	9	2	3	0	0	9	6	3	6
Avoidant	73	64	51	68	24	100	70	45	41	82
D-Scores										
D Score > 0	12	11	9	12	1	4	27	17	12	24
D Score = 0	67	59	37	49	21	88	101	65	9	18
D Score < 0	35	31	29	39	2	8	27	17	29	58
D score < −1	15	13	15	20	0	0	9	6	22	44
Adj D Score > 0	15	13	9	12	1	4	27	17	13	26
Adj D Score = 0	75	66	41	55	21	88	105	68	11	22
Adj D Score < 0	24	21	25	33	2	8	23	15	26	52
Adj D score < −1	10	9	9	12	0	0	6	4	20	40
Zd > +3.0 (Overincorp)	10	9	19	25	3	13	23	15	7	14
Zd < −3.0 (Underincorp)	40	35	18	24	2	8	47	30	7	14
Form Quality										
XA > 0.89	6	5	4	5	0	0	1	1	0	0
XA < 0.70	66	58	54	72	24	100	95	61	14	28
WDA% < 0.85	95	83	68	91	24	100	139	90	41	82
WDA% < 0.75	69	61	52	69	24	100	107	69	34	68
X+% < 0.55	105	92	73	97	24	100	139	90	46	92
Xu% > 0.20	94	83	59	79	2	8	113	73	30	60
X−% > 0.20	75	66	67	89	24	100	133	86	44	88
X−% > 0.30	41	36	51	68	24	100	85	55	32	64
FC:CF+C Ratio										
FC > (CF+C)+2	6	5	11	15	0	0	6	4	0	0
FC > (CF+C)+1	16	14	18	24	1	4	17	11	3	6
(CF+C) > FC+1	40	35	10	13	3	13	48	31	16	32
(CF+C) > FC+2	19	17	5	7	0	0	26	17	8	16
S-Constellation Positive										
HVI Positive	0	0	10	13	4	17	17	11	0	0
OBS Positive	0	0	0	0	0	0	0	0	0	0
PTI = 5	0	0	2	3	0	0	0	0	0	0
PTI = 4	4	4	12	16	0	0	0	0	2	4
PTI = 3	11	10	19	25	23	96	43	28	16	32
DEPI = 7	0	0	0	0	0	0	0	0	0	0
DEPI = 6	3	3	10	13	0	0	10	6	0	0
DEPI =5	8	7	22	29	0	0	31	20	6	12
CDI = 5	13	11	15	20	5	21	16	10	3	6
Miscellaneous Variables										
R < 17	20	18	35	47	12	50	21	14	36	72
R > 27	18	16	15	20	0	0	38	25	0	0
DQv > 2	59	52	17	23	3	13	61	39	6	12
S > 2	12	11	32	43	2	8	54	35	7	14
Sum T = 0	86	75	64	85	24	100	133	86	42	84
SumT > 1	9	8	3	4	0	0	7	5	3	6
3r+(2)/R < 0.33	75	66	50	67	23	96	110	71	36	72
3r+(2)/R > 0.44	13	11	3	4	0	0	18	12	36	72

Table2 (Continue). Rorschach Variable Frequencies for 114 Non-patient Iranian Children and Four Country

Fr+rF > 0	1	1	11	15	0	0	3	2	3	6
Pure C > 0	66	58	4	5	4	17	54	35	17	34
Pure C > 1	34	30	20	27	1	4	26	17	8	16
Afr < 0.40	27	24	41	55	4	17	37	24	13	26
Afr < 0.50	54	48	27	36	8	33	64	41	18	36
(FM+m) < Sum Shading	21	18	27	36	0	0	41	26	15	30
(2AB+ART+AY) > 5	2	2	1	1	0	0	2	1	0	0
Populars < 4	78	68	57	76	19	79	98	63	37	74
Populars > 7	0	0	0	0	0	0	5	3	0	0
COP = 0	99	87	64	85	21	88	139	90	47	94
COP > 2	4	4	1	1	0	0	2	1	0	0
AG = 0	97	85	67	89	21	88	121	78	44	88
AG > 2	3	3	0	0	0	0	3	2	0	0
MOR > 2	10	9	2	3	0	0	16	10	0	0
Level 2 Sp.Sc. > 0	22	19	18	24	1	4	21	14	3	6
GHR > PHR	50	44	24	32	2	8	55	35	15	30
Pure H < 2	76	67	59	79	19	79	89	57	38	76
Pure H = 0	34	30	43	57	14	58	43	28	23	46
p > a+1	18	16	4	5	1	4	21	14	5	10
Mp > Ma	19	17	10	13	3	18	35	23	6	12

For instance, Table 1 shows that R has M = 21.60 and SD = 5.33. Reference mean and standard deviation allow one to determine quickly how far a person or a sample is from the expected norms and to see how typical or atypical values are for the person or sample compared to the norms.

Table 2 displays the frequency and percentage of Rorschach variables of the 114 non-patient Iranian children and international normative reference values for the CS. To facilitate cross-national comparisons, we presented miscellaneous variables for all samples. This table presents country specific distribution for the important scores, which were not listed in Table 1 (i.e., Styles, D-Scores, Form Quality, S-Constellation Positive and so on). Table 2 shows how the scores are distributed within each country. Given that positive and negative deviations from the mean cancel out, the most salient information in this table is the dispersion of scores.

Discussion

Based on the seven clusters proposed by Exner (2), we briefly present the key data concerning normative findings to emphasize how Iranian children respond to the Rorschach:

Information Processing

As displayed in Table 2, with respect to location, predominance of D as opposed to W is clear in 5-7-year-old Iranian children (11.25 vs. 7.12). This ratio is similar to the results from other countries (Brazil: 7.70 vs. 5.18; Italy: 8.01 vs. 7.01; Japan: 7.17 vs. 6.88; and Portugal: 10.84 vs. 9.17) except for data from the United States (8.04 vs. 10.36). For developmental quality, complicated responses (DQ+) occurred with lower frequency than simple responses (DQo; 2.18 vs. 16.37). This pattern is in parallel with previous studies (Brazil: 1.90 vs. 13.04; Italy: 3.52 vs. 15.95; Japan: 1.83 vs. 14.54; and Portugal: 4.01 vs. 16.97; US: 5.46 vs. 11.06). The mean number of the responses that are indicative of organizational activity was as expected (Iran: 7.54; Brazil: 6.64; Portugal: 11.26; Japan: 7.04; Italy: 8.99). The percentage of under-corporative children was equal to 35% (compared with Brazil: 14%; Italy: 22%; Japan: 8%; and Portugal: 30%).

Mediation

Due to the simple nature of information processing in childhood, it is not surprising that mean lambda in 5-7 –year-old Iranian children was higher (2.24) than those expected from adults. However, lambda value of Iranian children was lower than the value in most of the other countries (Brazil: 4.13; Italy: 3.02; Japan: 8.47; Portugal: 3. 76) except US (1.46). The other factor necessary to discuss is the form quality. XA% was equal to 0.67. Similar results are presented in other studies (Brazil: 61%; Portugal: 65%; Japan: 35%; Italy: 61%; America: 91%).

Ideation

In this cluster, there was not any notable data except for lack of M (1.38 vs. compared to Brazil: 0.48; Portugal: 1.56; Japan: 0.71; Italy: 1.33; America: 2.23) and FM (2.36 vs. Brazil: 1.52; Portugal: 1.87; Japan: 0.96; Italy: 2.27; America: 5.15).

Controls and Stress Tolerance

According to the high lambda, there was an exception that median of other determents were low. This was also noticeable in FM and also C, shading response and T. In fact, the mean of C was equal to 2.96 in the 5-7 year- old sample (in comparative with Brazil: 1.88; Portugal: 2.88; Japan: 1.13; Italy: 2.95; America: 5.37).

The mean of Sum T and Sum Y were equal to 0.34 and 0.14, respectively (compared to Brazil: 0.24 and 0.72; Portugal: 0.19 and 0.24; Japan 0.0 and 0.0; Italy: 0.25 and 0.43; America: 0.86 and 0.38). The mean of Sum C' in 5-7- year- old sample was relatively high (1.41 compared to Brazil: 0.48; Portugal: 1.20; Japan: 0.33; Italy: 1.59; America: 0.82). Another important data noticeable in Iranian normative data was Afr, whose value was equal to 0.49 (compared to Brazil: 0.56; Portugal: 0.56; Japan: 0.61; Italy: 0.48; America: 0.85).

Affect

Iranian children provided a small number of responses with color determinants, and this may be due to the high Lambda values cutting through other samples. Inspection of the Afr value gave rise to a new fact when explaining the reason for this decrease. Afr mean values was 0.49 in the Iranian children aged 5 -7. The last point warranting our attention was the fact that CF mean values were always lower than FC ones, with the exception for the 5-7- year- old group, whose values were 0.56 and 1.08, respectively.

Self-perception

The Egocentricity index was rather low: 0.26 (compared to Brazil: 0.21; Portugal: 0.24; Japan: 0.09; Italy: 0.23; America: 0.67). This was mainly due to the rare frequency of reflection responses (Fr and rF). Fr and rF mean value obtained for I Iranian children aged 5 to 7 was 0.01 (compared to Brazil: 0.06; Portugal: 0.02; Japan: 0.0; Italy: 0.03; America: 0.32). On the contrary, An and MOR values were consistently high in all groups (compared to Brazil: 0.50 and 0.72; Portugal: 0.77 and 0.89; Japan: 0.58 and 0.21; Italy: 0.47 and 0.40; America: 0.13 and 0.83).

Interpersonal Perception

Two or three aspects should be emphasized considering some of the variables. The H and Hd values, which are close to each other, vary between 1.46 and 1.21. Because of the aforementioned small values of movement responses, cooperative and aggressive codes were reduced. On the other hand, the Coping Deficit index reached high frequencies in our samples. The percentage of CDI $\geq$ 4 values of Iranian children aged 5- 7 was 11% (compared to Brazil: 6%; Portugal: 10%; Japan: 21%; Italy: 20%; America: 1%).

As demonstrated in table 2, responding styles, some key variables, percentage, ratios, and derivations for each of the countries have been presented. In all countries except for the U.S., the domain style was avoidant. All responding styles were similar in Iran, Italy, Portugal and Brazil, but avoidant style was dominated in Japan's sample. In American normative data, all children had an extroversive style. One important issue about Iranian normative data was that extroversive style was dominated in this sample (18% compared to Brazil: 14%; Portugal: 8%; Japan: 0%; Italy: 5%). Extroversive style was very high in American normative data (56%). There were no noticeable data on D score. In Iranian normative data, ZD<3.0 was hardly high (35% compared to Brazil: 14%; Portugal: 30%; Japan: 8%; Italy: 24%; America: 28%). According to FQ table, XA %> 0.89 was high in Iranian sample. Japan and the U.S. had unusual values. Ratio of FC: CF+C was similar in each of the counters. DQv>2 was relatively high in Iranian normative data (52% compared to Brazil: 12%; Portugal: 39%; Japan: 13%; Italy: 23%; America: 2%). T>1 were similar in all the sample (Iran: 8%, compared with Brazil: 6%; Portugal: 5%; Japan: 0%; Italy: 4%; America: 1%). 3r+ (2)/R < 0.33 in Iranian sample was low. In addition, Pure C>0 and Pure C>1 were high in Iranian normative data (58% and 30%, respectively). Iranian normative data were high in Afr<0.50 (48%). (2AB+ART+AY) > 5 was the highest in Iranian normative data (2%).

Limitations

The results of this study should be interpreted with caution. These reference data were collected in the city of Tehran and might not generalize to a nonurban population.

Conclusion

Considering the goal of identifying normative reference values that transcend countries, cultures, languages, recruitment strategies, types of normative target populations, examiner training, and age, the data contained in this study present small different values for the CS in each of the mentioned countries. Although the findings in Meyer, Erdberg & Mihura Supplement (2007), strengthen our ability to use an international normative reference standard for the Rorschach with adults, the data in this study challenge our ability to do so for children and adolescents (25).

In agreement with the notation of Meyer and Viglione (2008) that indicated child reference data are unstable, and cautioned clinicians about making inferences on the topic of psychopathology in children from CS data and given the findings of this study, we take this caution further (16). We do not understand the cultural, societal, examiner, and/or administration and scoring factors that are responsible for the erratic results seen with children and adolescents.

Finally, it may seem that clinicians could rely on country specific or "local norms" when assessing children. The findings in this study and Meyer, Erdberg & Mihura (2007) leave us concerned that normative information collected by one group in a particular locale may not generalize to the types of data obtained by all clinicians working in that locale (25).

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Conflict of interest

All authors declare that they have no conflict of interest.

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Appendix

Glossary of Comprehensive System Scores

A: Content code for whole, real animal

(A): Content code for whole, mythical animal

a: (active) Superscript for movement determinants denoting a higher level of behavioral output than p (passive)

AB: Special Score for coding the use of symbolic representation

Ad: Content code for part or detail of a real animal

(Ad): Content code for a part or detail of a mythological animal
AdjD: Adjusted D, calculated by EA – Adj es
Afr Affective Ratio: calculated by responses to Cards VIII+IX+X divided by responses to Cards I+II+III+IV+V+VI+VII
AG: Special Score for coding the use of movement that is aggressive in nature
ALOG: Autistic Logic, Special Score for coding the use of strained reasoning
An: Content code for reference to internal anatomical concepts
An+Xy: Content code for reference to anatomical concepts and X-ray (Xy)
Art: Content code for reference to artistic concepts
Ay: Content code for the use of anthropological concepts of a historical or cultural nature
Bl: Content code for the use of blood, whether animal or human
Blends: A response that contains two or more determinants; they are separated by a period
Blends/R: The number of Blends divided by R.
Bt: Content code for the use of botanical concepts
C: A determinant reflecting the use of only color in generating the response
C': A determinant reflecting the use of only achromatic color in generating the response
C'F: A determinant reflecting the emphasis of achromatic color over form in generating the response
CDI Total: The total of all variables that constitute the Coping Deficit Index
CF: A determinant reflecting the emphasis of color over form in generating the response
Cg: Content code for the use of clothing
Cl: Content code for reference to a cloud
Cn: Color naming; a determinant reflecting the use of color by name as the response
Cognitive Special Scores: Special Scores reflecting cognitive slippage (DV, INC, DR, FAB, ALOG, CONTAM)
Col-Shd Blends: The total number of Blends combining chromatic and achromatic or shading determinants or both.
CONTAM: Contamination, a Special Score reflecting the merging or blending or both of two contents within one blot area
Content: The category in which the response is located
COP: Cooperative Movement, a Special Score reflecting the use of movement (M, FM and m) that is positive or collaborative
CP: Color Projection, a Special Score reflecting the attribution of color to an achromatic portion of the blot
D: Location code indicating a response involving a major detail, one identified in the Card's location table
D Score: Calculated by EA – es
Dd: Location code indicating response uses an unusual part of the blot, one that may be identified in the Card's location table
Determinant: A code that reflects how the stimulus field was translated
Developmental Quality: A code reflecting the nature of processing used to produce a response
DQo: A developmental quality code reflecting a single object with specific form demand
DQ+: A developmental quality code reflecting a synthesized answer, one that involves two or more objects, at least one of which has form demand, that are seen in a relationship with one another
DQv: A developmental quality code reflecting a single object with no specific form demand
DQv/+: A developmental quality code reflecting a vaguely synthesized answer, one that involves two or more objects, neither of which has form demand, that are seen in a relationship with one another
DR: Deviant Response, Level one, a Special Score reflecting the use of an inappropriate phrase or circumstantiality
DR2: Deviant response, Level two, a Special Score reflecting the use of an inappropriate phrase or circumstantiality that is bizarre or outside the bounds of reality
DV: Deviant Verbalization, Level one, a Special Score reflecting the use of a neologism, an individualized meaning, or redundancy
DV2: Deviant Verbalization, Level two, a Special Score reflecting the use of a neologism, an individualized meaning, or redundancy
EA: Experience Actual, the addition of Sum M and WSumC.
Egocentricity Index: 3r+ (2)/R An index computed as 3 times the number of reflections plus pairs divided by R
es: Experienced Stimulation, the sum of FM+m and SumC'+SumT+SumY+SumV
Ex: Content code for reference to an explosion, including fireworks
F: A determinant reflecting the use of only pure form in generating the response
FABCOM: Fabulized Combination, Level one, a Special Score reflecting the use of an implausible relationship or transparency
FAB2: Fabulized Combination, Level two, a Special Score reflecting the use of an impossible relationship
FC: A determinant reflecting the emphasis of form over color in generating the response

FC': A determinant reflecting the emphasis of form over achromatic color in generating the response
FD: Form Dimension, a determinant reflecting the use of dimensionality based on the contours of the blot in generating the response
Fd: Content code for reference to food that would be consumed by either animals or humans
Fi: Content code for reference to fire or smoke
FM: Animal movement, a determinant reflecting kinesthesis or activity in a response with animal content
FM+m: The addition of all Animal movement (FM) and all inanimate, inorganic, or insensate movement
(m)
Form Quality: Reflects the goodness of fit, the extent to which a response fits the portion of the blot used
(+,o,u,-)
FQx– : All the Form Quality minus in a record
FQxNone: All the Form Quality none in a record
FQxo: All the Form Quality ordinary in a record
FQx+: All the Form Quality ordinary-elaborated in a record
FQxu: All the Form Quality unusual in a record
Fr: A determinant indicating the emphasis of form over reflection in generating the response
Fr+rF: The addition sum of all reflection responses
FT: A determinant reflecting the emphasis of form over texture in generating the response
FV: A determinant reflecting the emphasis of form over dimensionality based on shading in generating the response
FY: A determinant reflecting the emphasis of form over shading in generating the response
Ge: Content code for reference to a map
Good HR (GHR): Human content answers not characterized by minus Form Quality, significant cognitive slippage, Hd, AN content, MOR or AG Special Scores
H: Content code for reference to a real, whole human figure
(H): Content code for reference to mythological or fictional whole human figure
Hd: Content code for reference to a real human detail
(Hd): Content code for reference to mythological or fictional human detail
H+ (H) + Hd + (Hd): All human contents to include whole real and mythological as well as details of real and mythological humans
Hh: Content code for reference to household items
HVI Total: The total of all variables that constitute the Hypervigilance Index
Hx: Content code for reference to human experience including emotions and sensory experiences
INCOM: Incongruous Combination Level one, a Special Score reflecting the attribution of some aspect or activity to a response that is out of keeping with that response
INC2: Incongruous Combination Level two, a Special Score reflecting the attribution of some aspect or activity to a response that is out of keeping with that response which is bizarre, illogical, or beyond reality
Idiographic: Content that is not captured by other Content categories
Inquiry: A procedure following the response phase to aid in the accurate coding of responses
Intellect Intellectualization Index: (2AB+Art+Ay)
Isolate/R Isolation Index: (Bt + 2Cl+Ge+Ls+2Na/R)
Lambda: A ratio of pure Form responses to all other responses (F/R-F)
Location: That part of the coding that reflects where the percept is in the blot
Ls: Content code for reference to any landscape concept
Lvl 2 Sp Sc: Level 2 Special Score; assigned to Special Scores that contain a bizarre or severe quality
m: Inanimate movement, a determinant reflecting kinesthesis or activity in a response involving inanimate, insensate, or inorganic concepts
M: Human movement, a determinant reflecting kinesthesis or activity involving humans, or inanimate concepts or animals engaged in nonspecies specific movement
Ma: Human Movement that is active
MOR: Morbid Content, a Special Score used to reflect a response that contains an object that is broken, destroyed, or damaged or to indicate the presence of dysphoric affect
Mp: Human Movement that is passive
MQNone: All the Form Quality None for Human Movement (M) in a record
MQo: All the Form Quality ordinary for Human Movement (M) in a record
MQ+: All the Form Quality ordinary-elaborated for Human Movement (M) in a record
MQu: All the Form Quality unusual for Human Movement (M) in a record
MQ –: All the Form Quality minus for Human Movement (M) in a record
Na: Content code for reference to any concept from the natural environment

p: (passive) Superscript for movement determinants denoting a lower level of behavioral output than a (active); benchmarks of “talking” and “looking” are passive
Pair (2): The use of the symmetry of the blot to produce two identical percepts in a response
PER: A Special Score that reflects the use of personal knowledge or experience to justify a response; often PER contains “I,” “me,” or “my”
Poor HR (PHR): Human content answers characterized by minus Form Quality, significant cognitive slippage,
Hd, AN content, MOR, or AG Special Scores
Popular (P): A response that occurs with unusually high frequency, at least once in every three protocols
PSV: Perseveration, a Special Score reflecting a form of cognitive rigidity that manifests in providing two or more very similar responses to the same blot or referring to previously articulated material and indicating that it is the same as previously seen
PTI Total: The total of all variables that constitute the Perceptual-Thinking Index
PureF%: The total number of F determinants divided by R
R: An answer; a response to any location in the blot
rF: A determinant indicating the emphasis of reflection over form in generating the response
S: Location code indicating a response that includes white space
Sc: Content code for reference to a product of science, science fiction, or industry
Special Scores: That part of the coding that addresses special aspects of how the response is worded
Sum C’: All of the achromatic determinants in a record
Sum Color: All of the Color determinants in a record
Sum Shading: All of the Shading (Sum Y, Sum V and Sum T) and Achromatic (Sum C’) determinants in a record
Sum 6 Sp Sc: All of the Cognitive Special Scores in a record (DV, INC, DR, FAB, A LOG, and CONTAM)
Sum T: All of the Texture determinants in a record
Sum V: All of the Vista determinants in a record
Sum Y: All of the Diffuse Shading determinants in a record
Sx: Content code for reference to concepts of a sexual nature including body parts and sexual activity
T: A determinant reflecting the use of only texture in generating the response
TF: A determinant reflecting the emphasis of texture based on shading over form in generating the response
V: A determinant reflecting the use of only dimensionality based on shading in generating the response
VF: A determinant reflecting the emphasis of dimensionality based on shading over form in generating the response
W: Location code indicating response uses the entire card
WDA%: A Form Quality calculation derived by adding FQ+, FQo, and FQu for W and D locations divided by the total number of W + D responses
WD–: Form Quality Minus for all W and all D responses
WD None: Form Quality None for all W and all D responses
WD o: Form Quality Ordinary for all W and all D responses
WD+: Form Quality Plus for all W and all D responses
WD u: Form Quality Unusual for all W and all D responses
WSumC: Weighted Sum Color derived by (0.5)*FC + (1.0)*CF + (1.5)*C
WSum6: Weighted Sum6, the weighted sum of the six Cognitive Special Scores (DV, INC, DR, FAB, ALOG, and CONTAM)
XA%: A Form Quality calculation derived by adding FQ+, FQo, and FQu divided by R
X+%: A Form Quality calculation derived by adding FQ+ and FQo divided by R
X–%: A Form Quality calculation derived by dividing the total number of FQ–divided by R
Xu%: A Form Quality calculation derived by dividing the total number of FQu by R
Xy: Content code for reference to an X-ray
Y: A determinant reflecting the use of only shading in generating the response
YF: A determinant reflecting the emphasis of shading over form in generating the response
Zd: ZSum—Zest
Zf: The total number of Z scores in a record