FAQs on Understanding the Results Output for Child and Adolescent Cases

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What is the Easiest Way to Read the Child and Adolescent Profile Page Results?

On Page 1 and 2, focus on the C-SS column, the type of icon, and how far the icon is to the left or the right of the 'X.'

The Profile Pages for children and adolescents can be a little complicated to read because they show two things at the same time: how this person compares to others of the same age and how this person compares to adults.

The most central information is the *Standard Score* (SS), which indicates how far this person's score is from the average score. Standard Scores have a mean of 100 and a standard deviation of 15, such that a Standard Score of 85 is one standard deviation below average and a Standard Score of 115 is one standard deviation above average. This information is presented in the columns adjacent to the variable names and there are two elements: the greyed-out A-SS column provides the SS for this person relative to adults, while the regular font C-SS column shows the SS for this person relative to others of the same age.

In the section of the results where scores are profiled there also are two primary elements: the *grid* and the *overlays*. The grid consists of the vertical lines on the Profile Pages. It is structured for adults, where the heavy dark line down the center of the profile at a SS value of 100 indicates the average score for an adult. Superimposed on the grid are the overlays. They show what is expected for a child or adolescent at a particular age. The overlay has two parts, an X and surrounding dashed lines that we call whiskers. The X is the mean or average value for respondents of that particular age and the whiskers extend 1 standard deviation below and above the X.

The third important element of the profile area is the *icon*, which is placed at the raw score value that was obtained by this particular child or adolescent. That icon can be interpreted relative to two normative standards: adults or others of the same age. When the icon is compared to the grid, it indicates how typical or atypical the score is compared to adults. This comparison is what produces the grayed out numbers in the A-SS column. When the icon is compared to the overlays, it indicates how typical or atypical the score is compared to others of the same age. This comparison is what produces the regular font numbers in the C-SS column, which again are the standard score values that quantify how far from average this child is, using the X to indicate what is average and the whiskers to indicate typical variability around that average. The colors and shapes of the icons on the child and adolescent profiles are keyed to the overlays, not to the grid. Thus, they are keyed to what is expected for someone of the same age and not keyed to what is expected for an adult. **GREEN** with no bars means that the result

falls within the broad average range (C-SS: 85-115); YELLOW with one bar means that the result falls between 1 and 2 standard deviations above or below the mean (C-SS: 70-84 or 116-130, with "above the mean" being to the right of the X and "below the mean" being to the left of the X); RED with two bars means that the result falls between 2 and 3 standard deviations above or below the mean (C-SS: 55-69 or 131-145); and **BLACK** with complete fill means that the result is more than 3 standard deviations above or below the mean (C-SS: < 70 or > 145).

The key thing to understand is that the C-SS values are determined by the icon in relation to the data for the age-specific overlays, while the A-SS values are determined by the icon in relation to the data for the underlying adult grid. To focus on the age-specific results read the number in the C-SS column and pay attention to the type of icon and its distance from the X on the overlay.

For example, in the row of output below for a 10-year old girl we see that her C-SS value for Complexity is 90, which we know falls in the broad average range. The icon is placed in the profile area at her raw score value of 48 and we can see visually that it is a green open icon that falls on the lower whisker of the overlay. The green open icon and the fact that it falls on the whisker indicate that it falls in the broad average range for a 10-year old. But more specifically, we also can see that the icon is 2/3rds of the whisker away from the X. Remember the X equates to a C-SS value of 100 for 10-year olds and the whisker corresponds to 15 C-SS points. Because the icon is 2/3rds of a whisker away and because 2/3rds of a 15-point whisker is 10 points, the icon is placed 10 points below the C-SS value of 100 (i.e., the X) at a C-SS value of 90. This illustrates how to understand the results output and the placement of the icon relative to the overlay. When doing so, ignore the A-SS values in the profile area that range from 60 to 140; they correspond to the adult grid. Focus instead on the icon in relation to the overlay and its corresponding C-SS value.

Domain/Variables	Raw Scores	Raw		Cplx. Adj.		Standard Score Profile R-Optimized									Abbr.
		A-SS	C-SS	A-SS	C-SS	60	70	80	90	100	110	120	130	140	
Engagement and Cog. Processing															
Complexity	48	81	90												Cmplx

How Do I More Fully Understand the Child and Adolescent Profile Page Results?

As noted above, the basic standard score grid formatting of vertical lines on the Profile Pages is keyed to adult norms, regardless of the age of the respondent. The adult norms use a standard score metric, which has a mean of 100 and a standard deviation of 15. Thus, the midline on the Profile Page grid represents the adult standard score of 100, and 15 point intervals on that grid reflect changes of one standard deviation. When assessing a child or adolescent, the grayed-out values given in the A-SS columns indicate what the person's standard score would be relative to the *adult* reference sample. Thus, they indicate the placement of this person's raw scores on

the grid itself. However, the grid is not used in the same way with children or adolescents as it is for adults. For children and adolescents, superimposed on the grid are overlays showing the average range for people of a particular age. As noted above, the overlay has an X to designate the mean for that age, and whiskers extending above and below that X to designate one standard deviation to either side of the mean. This overlay reflects the current transitional norms for a child or adolescent of that particular age. (The processes that were used to generate these norms and an explanation for why they are provisional are available at Technical and Methodological Aspects of Developing the Current R-PAS Child and Adolescent Norms.) Using the age-based information contained in the overlays, the values given in the C-SS columns indicate what this person's standard scores are relative to other children or adolescents the same age. Thus, they indicate the placement of this person's raw scores on the overlay – the X and whiskers – not on the grid itself.

When you test a child or adolescent, you may want to know how their scores compare to adult norms (i.e., the A-SS values that are tied to the vertical line grid) but generally you want to know how they compare to norms for children or adolescents of similar ages (i.e., the C-SS values that are tied to the overlay). Thus, you generally will focus on the C-SS values and the placement of the icon on the Profile Page relative to the overlay. Again, the overlay for children and adolescents consists of an X surrounded by the whiskers made up of a series of dots, like this: ················X·················. Because the X marks the statistical mean for the respondent's own age group it indicates the C-SS value of 100. Because the whiskers indicate one standard deviation above and below the mean, they extend from C-SS values of 85 on the left to 115 on the right. These relations hold regardless of where the overlay is located on the underlying grid.

The only thing that is important to remember is that the C-SS values are keyed to the age-specific overlays, while the A-SS values are keyed to the underlying adult grid. Thus, if the X in an overlay falls on the grid at an A-SS value of 85, that point is not below average, as the grid itself would suggest. Rather, it just represents the mean value for all respondents in that child or adolescent's age group, which is a C-SS value of 100. Thus, the spot where the X falls always is equivalent to C-SS = 100 or the 50th percentile *for purposes of this age group*. Because the whiskers surrounding the X correspond to one standard deviation in each direction, they extend to a C-SS of 85 below the mean and a C-SS of 115 above the mean. If the icon indicating the respondent's obtained raw score falls on the whiskers surrounding the X, you know that their score falls within one standard deviation of the mean (X) and is thus within the broad average range for this age. When the icon falls either above or below the ends of the whiskers, it is considered outside the broad average range for this age. The farther it lies outside this range, the more unusual it is.

Below is an example of the top of the Page 1 Profile from an 11-year-old boy:

Domain/Variables	Raw Scores	Raw A-SS	Raw C-SS	Cplx. Adj. A-SS	Cplx. Adj. C-SS	Standard Score Profile R-Optimized	Abbr.
Admin. Behaviors and Obs.						60 70 80 90 100 110 120 130 140	
Pr	0	89	91				Pr
Pu	2	125	>150				Pu
CT (Card Turning)	9	115	118				CT
Engagement and Cog. Processing						60 70 80 90 100 110 120 130 140	
Complexity	52	85	93				Cmplx
R (Responses)	28	112	116	117	123		R
F% [Lambda=3.67] (Simplicity)	79%	129	118	121	110		F%
Blend	0	73	86	90	96		Bln
Sy	0	64	80	88	94		Sy
MC	1.0	68	81	84	92		MC
MC - PPD	-4.0	93	93	93	93		MC-PPD
M	1	83	89	91	96		M
M/MC [1/1.0]	NA						M Prp
(CF+C)/SumC [0/0]	NA						CFC Prp

Notice that some of the X's on the overlays fall to the left of 100 on the grid, some to the right of 100 on the grid, and some at almost exactly 100 on the grid. Wherever the X falls, that value is the mean for that child or adolescent's nonpatient reference group, even though the same score might be higher or lower than the mean for the adult nonpatient reference group. Also notice that the whiskers surrounding the X's are sometimes longer or shorter than the 15 standard score points on the original grid for the adult norms. That is because the standard deviations of the raw scores for the child or adolescent reference group may be slightly larger or smaller than the standard deviation equivalent for the adult reference group. (The adult norms were actually created using percentiles and then those percentiles were converted to standard scores.) Also, you may notice that the whiskers on the left side or right side are sometimes not the same length, and may be either truncated or expanded. This is to take into account the floor and ceiling effects in the data or situations in which the size of the raw score intervals varies irregularly between the left and right side. For instance, the whisker for Pr is shorter on the left side than the whisker on the right side. This is because 0 is the minimum value possible and it imposes a floor effect on variability around the mean. Alternatively, consider the M variable. The raw score intervals are narrower on the right than the left, which causes the whiskers to be narrow on the right than on the left.

What about the icons? Although the circular icon is always located at the raw score obtained by the respondent (visible on the grayed out underlying units), which is the same whether one is using child or adult norms, the *color* and *shape* of the icon is keyed to the applicable age range for the respondent being tested. Thus, a GREEN, open circle on a child or adolescent's profile page represents a score that falls within one standard deviation of the mean (C-SS range: 85-

115). A score that falls within one to two standard deviations of the mean is represented by a YELLOW circle with one horizontal bar (C-SS range: 70-84 or 116-130; as is the case with Pu and R in the graphic above). A score that falls within two to three standard deviations is represented by a RED circle with two horizontal bars (C-SS range: 55-69 or 131-145). Finally, when the score falls more than three standard deviations from the age-adjusted mean, the icon is a **BLACK**, fully filled circle (C-SS range: < 55 or > 145; as is the case with Pr above). Note that these standard deviation differences are computed using raw score units. If the raw score units are distributed irregularly across the range of scores, it is possible for a red icon, for example, to be more or less than two whisker lengths from the mean.

Finally, it should be noted that the A-SS values are always presented in light gray font. This is done to make those values unobtrusive so you can focus more readily on the C-SS values.

What About Using Complexity-Adjusted Scores with Children and Adolescents?

Complexity-Adjusted scores are profiled using square icons. When this option is selected, the placement of the square icons on the Profile Page indicates the raw score expected for this person after adjusting for their level of Complexity. The color and shape of the icons follow the same classification rules as for the raw score C-SS values (e.g., they are green and open squares when the C-Adj C-SS fall in the range of 85-115). Paralleling the data in the "Raw" column, the "Cplx. Adj." column contains two sub-columns of SS values. The A-SS column here shows what this person's Complexity-Adjusted score would be relative to adult norms (i.e., the vertical lines of the underlying grid), while the C-SS column indicates what this person's Complexity-Adjusted score is relative to other children or adolescents of the same age (i.e., the Xs and whiskers of the overlays). When Complexity-Adjusted scores are selected, the C-SS values in this column become easy-to-see regular black font, while the A-SS values remain in gray font.

Addressing an Example Question Asked by Several Users

Question: When I look at Page 1 of Summary Scores and Profiles for a 11 year old I see for example the following: A-SS = 114 (grayed out) and C-SS = 119 (regular font). However, the icon is at the 114 mark. Why are the colored icons still linked to the A-SS scores? Is it possible instead to link the colored icons to the C-SS as opposed to the A-SS?

Answer: The profile pages are showing you two different things at the same time, depending on your reference point. They show both how the score obtained by the child or adolescent compares to adults – that is, where it is on the background grid of vertical lines, and how it compares to other children or adolescents of the same age – that is, where it is relative to the overlay. So you are interested in attending to the location of the icon relative to the X and the whiskers of the overlay, not relative to the central grid line of 100.

Follow-Up Question: I understand that the X is the man score whether or not that score lands on 100 and that one should then identify the SDs from that mean score. Here is a screenshot for the Page 1 Profile Page of an 11 year old that might clarify my question.

For P, am I reading the graph correctly in understanding that a raw score of 8 would equate to an adult-normed standard score of 119 and a child-normed standard score of 128? The yellow icon appears to be paired with the adult-normed score of 119 as opposed to being paired with the child-normed score of 128, which appears to be 2 SDs from the mean of 90 and would then be labeled with the red icon, correct? If the above statements are correct, I am wondering if it is possible to have the profile page display the icons paired with the child-norms as opposed to the adult norms.

FQ-%	6%	96	80	99	84															FQ-%
WD-%	6%	97	83	98	83															WD-%
FQo%	65%	107	122	101	115															FQo%
P	8	119	128	124	134															P
Stress and Distress						60	70	80	90	100	110	120	130	140						

Reply to Follow-Up: We see the confusion about this and unfortunately we are not currently equipped to change the underlying grid to reflect the C-SS values, though this is something we plan to do. If we did, the confusion would disappear. The raw score of 8 for your person is plotted on the grid at about 1 and 1/3 SDs (i.e., about 20 points) from the adult grid line of 100. That is what generates an A-SS value of 119. It is simultaneously plotted almost 2 SDs (i.e., almost 30 points) from the X, using the whiskers to designate an SD. That gives it the C-SS value of 128. So the yellow icon is farther from the X than it is from the grid line of 100. What do you think now?

Follow-Up #2: I think I am understanding this now. The yellow icon is plotted for both the adult and child norms with the central gridline of 100 pertaining to the adult norms and the X and whiskers being proportionally placed to represent the mean score of 100 for the child norms. Thus allowing one icon to be shown with two sets of norms on the same graph. So … long story short, the icon shown is the correct icon for both adult and child norms, correct?

Reply to Follow-Up #2: Yes, exactly! We'll try to do a better job of explaining this in the FAQ document. Thanks for raising this question! It really gets to the heart of the issue.

What about Scores that Are Not on the Profile Pages?

On the last page of the results output is the Profile Appendix showing summary scores for all variables. For children and adolescents it follows the same pattern as the Profile Page in that there is a column for the raw score obtained by this person, followed by columns of standard scores that correspond to the raw score and to the Complexity-Adjusted raw score. Within those columns are sub-columns that provide information about what the standard score would

be using adult norms (A-SS) and what it is relative to other children or adolescents of the same age (C-SS). Like with the Profile Pages, the A-SS is always grayed out; it is present if you wish to look at it, but not prominent.

What If I Used CS Administration Rather than R-Optimized Administration or Coded Form Quality using the CS FQ Tables rather than the R-PAS FQ Tables with My Child or Adolescent?

In this case, you should check the appropriate box when entering the protocol. When you click the CS option for either the administration or the FQ table it changes the default options from this:

Administration: *   ⦿ R-Optimized ⦾ CS

FQ Table: *   ⦿ R-PAS ⦾ CS

Age Table: *   ⦾ 6 ⦾ 7 ⦾ 8 ⦾ 9 ⦾ 10 ⦾ 11 ⦾ 12 ⦾ 13 ⦾ 14 ⦾ 15 ⦾ 16 ⦾ 17 ⦿ Adult

To this:

Administration: *   ⦾ R-Optimized ⦿ CS

FQ Table: *   ⦿ R-PAS ⦾ CS

Age Table: *   ⦾ 5-8 ⦾ 9-12 ⦾ 13-18 ⦿ Adult

As can be seen, there now are only three potential age groups to choose from for children and adolescents. Also, the norms for these three age groups come from published research on the CS. As a result, they do not provide full normative data for children and adolescents for the variables that are found in R-PAS but that are not in the CS. Consequently, some of the scores on the Profile Pages will be grayed out and should not be used in interpretation. Protocols coded with CS FQ tables or obtained with CS administration make use of the older normative overlays, as described in Problems with Child and Adolescent Normative Reference Data for the Rorschach Comprehensive System (CS) and the Initial Solution Adopted by R-PAS® for Profiling CS Records. The older normative overlays look like this:

Perception and Thinking Problems						60	70	80	90	100	110	120	130	140	
EII-3		0.8	85	116	83	114						⧳			EII
TP-Comp (Thought & Percept. Com...)		1.0	71	108	71	108					◯				TP-C
WSumCog		20	93	122	92	121				X		⧳			WCog
SevCog		1	80	113	80	113				X	⧳				Sev
FQ-%	CS FQ	20%	59	103	56	102					◯	X			FQ-%
WD-%	CS FQ	20%	72	109	72	109					◯	X			WD-%
FQo%	CS FQ	40%	20	87	20	87			X ⧳						FQo%
P		5	39	96	43	97			X	◯					P

The most obvious distinguishing feature when comparing these overlays to the ones used currently is that some of the X's have an area around them bounded by slashes (\ X /). The gap between the slashes is an indication of the degree of uncertainty about where to place the mean value that was caused by variability in normative estimates from different samples for these CS records. If the Profile Pages contain this feature, you should use the original document on child norms, Problems with Child and Adolescent Normative Reference Data for the Rorschach Comprehensive System (CS) and the Initial Solution Adopted by R-PAS® for Profiling CS Records, as a guide to interpreting the Profile Pages.

How Can I Learn More About R-PAS Child and Adolescent Transitional Norms?

For a full technical discussion of how they were generated, please read: Technical and Methodological Aspects of Developing the Current R-PAS Child and Adolescent Norms.