WASI–II
WECHSLER ABBREVIATED SCALE OF INTELLIGENCE®–SECOND EDITION

Using the WASI–II with the WISC®–IV: Substituting WASI–II Subtest Scores When Deriving WISC–IV Composite Scores

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Introduction

This technical report provides information relevant to substituting scores obtained from four *Wechsler Abbreviated Scale of Intelligence–Second Edition* (WASI–II; Wechsler, 2011) subtests for the corresponding *Wechsler Intelligence Scale for Children–Fourth Edition* (WISC–IV; Wechsler, 2003) subtest scores when deriving WISC–IV composite scores.

A variety of recent changes in the field of psychological testing have placed constraints on the time practitioners have available for psychological testing. For example, the assessment of learning disabilities has become increasingly multifaceted, resulting in various new demands placed on the time and attention of school psychologists. Modified insurance reimbursement rates also have affected the time clinical psychologists can devote to psychological testing. The increasing need for efficiency creates a demand for short and reliable measures of cognitive ability.

In some settings, practitioners routinely administer a cognitive ability screener or a short form from a full battery ability test (e.g., a scale that provides two verbal and two nonverbal ability subtests) initially to screen for cognitive issues. A more comprehensive cognitive ability test will be administered when the screening results warrant more testing. Two issues may exist in such practice. First, when the need for comprehensive testing is indicated by the results of the screening, valuable time must be devoted to administering subtests similar to those already administered in the abbreviated measure. Second, the practitioner must interpret the comprehensive test results with caution because the scores from subtests similar to the screening test can be impacted due to various factors, such as:

- *procedural learning* (i.e., the acquisition of knowledge or experience, relevant to a strategy or procedure, that can be used to improve performance on a particular task);
- *variation in examinee effort* (perhaps due to boredom or discouragement because a similar task was already administered);
- *regression to the mean* (e.g., the tendency for extreme observations upon first testing to be closer to the mean upon second testing); or
- *the Flynn effect* (i.e., older norms produce inflated scores on intelligence measures; Flynn, 1987, 1999).

Although the last three factors are more bounded to the nature of testing and the psychometrics properties of the instruments selected, the first factor—procedural learning—can be controlled and reduced by choosing an administration procedure that is less prone to such effect. Procedural learning effects have more pertinence to and influence on perceptual domain subtests during re-administration

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(Basso, Carona, Lowery, & Axelrod, 2002; Heaton et al., 2001). In addition, repeated testing with the same manipulatives may further inflate scores on perceptual domain subtests in the second testing. For example, the WISC–IV test–retest data indicated that the average rise in scaled-score points and effect sizes from the first to the second testing for Block Design tended to be larger than those observed for the Vocabulary or the Similarities subtests (Wechsler, 2003). Though these retest data are also influenced by item practice effects because the items are identical, the relatively larger rise in Block Design scores suggests an additive influence of repeated administration effects. Specifically, as the examinee completes the easier items on Block Design, he or she acquires knowledge of how to construct certain portions of designs (e.g., a triangle shape in a design can be constructed by aligning the half-red sides of a surface of two blocks) that are also present in the designs on later items. This knowledge of construction procedures may then allow the examinee to obtain higher scores upon retest by constructing designs more quickly or accurately. The same type of knowledge is not acquired on the Vocabulary or Similarities items. For retest studies, item practice effects are more likely to be an issue for the Block Design, Vocabulary, and Similarities subtests because the examinee may recall items and research or learn correct responses prior to retest administration.

Procedural learning effects may exist when a comprehensive measure with similar subtests is administered after an abbreviated measure. For instance, when the WASI–II is administered before the WISC–IV, procedural learning may inflate scores on the corresponding subtests in the WISC–IV. However, if the results from the screener test can be substituted for the comparable subtest scores on the comprehensive battery, the need for re-administration of measures of strong resemblance can be eliminated and potential score inflation due to procedural learning can also be avoided.

WASI–II Subtests as Substitutes for WISC–IV Subtests

Two tests in the Wechsler suite of cognitive ability assessments may utilize substitution in this manner: the WASI–II, an abbreviated cognitive ability test for assessing the intelligence of individuals ages 6 years through 90 years, and the WISC–IV, a comprehensive clinical instrument for assessing the intelligence of children ages 6 years through 16 years. The WASI–II was developed to provide quick and accurate estimates of intellectual functioning for screening and reevaluation purposes. It meets the demands for a short and reliable measure of intelligence in clinical, psychoeducational, and research settings. The scale consists of four subtests: Vocabulary, Similarities, Block Design, and Matrix Reasoning. The subtests are scaled to a *T*-score metric. The WASI–II provides four composite scores: the Verbal Comprehension Index (VCI), the Perceptual Reasoning Index (PRI), the Full Scale IQ–2 Subtest (FSIQ–2), and the Full Scale IQ–4 Subtest (FSIQ–4).

In practice, the WASI–II can be administered as the initial cognitive ability test. When additional assessment is necessary, the WISC–IV may be administered and the four WASI–II subtest scores may substitute for the corresponding WISC–IV subtest scores. For example, the WASI–II Similarities *T* score can be converted to a scaled score and substituted for the WISC–IV Similarities scaled score, eliminating the need to administer the WISC–IV Similarities subtest. This solution not only reduces WISC–IV administration time (the administration time for all four subtests that have counterparts in the WASI–II is approximately 30 minutes), but also helps to better maintain examinee–examiner rapport and examinee effort. In addition, this efficiency frees up additional time that the practitioner can use to assist the child through other clinical, psychoeducational, and assessment activities.

Important features in creating alternate forms of a test, i.e., content sampling, range and difficulty level of items, instructions, sample items, and presentation format (Anastasi & Urbina, 1997)—were emphasized in the development of the original WASI subtests (Wechsler, 1998), as well as in WASI–II. The four subtests were chosen for their strong association with general cognitive abilities (Brody, 1992; Kamphaus, 1993; Kaufman, 1990; Sattler, 2001; Wechsler, 2003, 2011) and for their relationship to constructs of intelligence, such as the verbal/performance and crystallized/fluid dichotomies.

New items added to extend the subtest score range in the WASI–II were subjected to extensive expert reviews based on several criteria, including similarity to the related items on the comprehensive measures, difficulty, ease of scoring, and bias. Outdated items and items that were of duplicate difficulty were deleted to shorten the administration time required. WASI–II administration procedures were also updated to be more consistent with those in the full Wechsler intelligence batteries. These procedures yielded WASI–II subtests comprising items that differ from, but are parallel to, items in the corresponding Wechsler cognitive ability measures. The range and level of difficulty of the items are comparable, as are the instructions, sample items, and presentation format.

Effects of WASI–II Substitution

Substitution with WASI–II subtests provides the opportunity to avoid procedural learning effects and reduce testing time when a subsequent WISC–IV is administered. The desired WISC–IV composite score(s) can be derived by converting the WASI–II subtest *T* scores to scaled scores for the corresponding subtests on the WISC–IV. The practitioner then need only administer the WISC–IV subtests that are relevant to the desired WISC–IV composite score(s) for which no corresponding subtest exists on the WASI–II. The remaining sections in this report will present evidence on the effectiveness of the substitution and guidelines for using it.

The following analyses demonstrate the effectiveness of using the WASI–II substitution feature compared to other possible predictive approaches. In brief, comparisons were conducted between the actual obtained composite scores and two methods of obtaining the composite when trying to minimize impact from procedure learning: 1) composite scores obtained when the WASI–II subtest scores were used as substitutes, and 2) composite scores obtained when proration was used without substitution.

Samples

Two samples were used for the proposed analyses. The first sample included 101 examinees who took both the WASI–II and the WISC–IV during WASI–II standardization. The examinees took the WASI–II first and the WISC–IV second. The mean testing interval was 23 days (range = 12–88 days). The sample comprised 8–10 children in each 1-year age band from 6–16. Parent education levels were 2% with ≤8 years, 11% with 9–11 years, 26% with 12 years, 31% with some college, and 31% with a college degree and higher. There were 50% male/female, 61% White, 7% African American, 25% Hispanic, 4% Asian, and 3% other ethnicities. The testing order for this sample simulated the condition where the WASI–II is used as a screener and WISC–IV is given for full evaluation. This sample is referred to as "the WASI–II sample" for the purposes of this report.

The second sample included 100 examinees who took both the WASI–II and the WISC–IV during WASI–II standardization, but took the WISC–IV first and then the WASI–II. The mean testing interval was 19 days (range = 14–67 days). The sample comprised 8–16 children in each 1-year age band from 6–16. Parent education levels were 2% with ≤8 years, 11% with 9–11 years, 22% with 12 years, 37% with some college, and 28% with a college degree and higher. There were 50% male/female, 45% White, 25% African American, 18% Hispanic, 2% Asian, and 10% other ethnicities. Because the WISC–IV was given first, children's performance on the WISC–IV was not affected by procedural learning effect. This sample was used to provide baselines for mean comparisons and will be referred as "the WISC–IV baseline sample."

The normative sample collected for the WISC–IV standardization was used for creating matched-control comparison samples for both the WASI–II and the WISC–IV baseline samples.

Estimated Composite Scores

Besides the observed WISC–IV composite scores, two sets of estimated composite scores are computed: estimated composite scores using WASI–II substitution and estimated composite scores using proration.

Substitution Using WASI–II subtests

Using the WASI–II sample, the estimated WISC–IV composite scores are calculated with the following steps. First, the WASI–II *T* scores are converted to a scaled-score metric per Table A.2 in the WASI–II Manual. The converted scores then replace the scaled scores of the corresponding subtests on the WISC–IV, which was administered after the WASI–II, to derive the new composite estimates. Table 1 contains the composite scores calculated using the WASI–II substitution.

Proration

When administering the WISC–IV, examiners could use proration based on two subtest scores (for VCI and PRI) or 8/9 subtest scores (for FSIQ) to obtain the sum of scaled scores and the corresponding composite scores. Theoretically, the subtest that is most susceptible to procedural learning could be skipped with the proration approach when a comprehensive measure is given in a subsequent evaluation. A set of scores simulating this administration condition was calculated for the WASI–II sample. Table 1 also presents the types of estimated scores calculated using the proration approach.

Table 1 List of Score Abbreviations and Descriptions

Methods	Scores	Descriptions
Observed	VCI	Actual obtained VCI from standard WISC–IV administration
	PRI	Actual obtained PRI from standard WISC–IV administration
	FSIQ	Actual obtained FSIQ from standard WISC–IV administration
WASI–II Substitution	VCI_sub	VCI using WASI–II Similarities and Vocabulary
	PRI_sub	PRI using WASI–II Block Design and Matrix Reasoning
	FSIQ_sub	FSIQ using four WASI–II subtests
Proration	VCI_noSI	VCI when Similarities is not given
	VCI_noVC	VCI when Vocabulary is not given
	PRI_noBD	PRI when Block Design is not given
	PRI_noMR	PRI when Matrix Reasoning is not given
	FSIQ_noSIBD	FSIQ when Similarities and Block Design are not given
	FSIQ_noSIMR	FSIQ when Similarities and Matrix Reasoning are not given
	FSIQ_noVCBD	FSIQ when Vocabulary and Block Design are not given
	FSIQ_noVCMR	FSIQ when Vocabulary and Matrix Reasoning are not given

Analyses and Results

Comparisons were made between as a mean comparison between each estimated composite score to the observed score, and as percentages of discrepancies between the estimated and observed scores.

Comparisons of the Means

For the mean comparisons, a matched-control sample was drawn from the WISC–IV normative sample for both the WASI–II sample and the WISC–IV baseline sample. The matched samples were created by matching the examinees on age, parent education level, sex, and ethnicity. In the WASI–II sample, where the WISC–IV was given after the WASI–II, both the Flynn effect and procedural learning effect could contribute to score inflation. The potential influence from the Flynn effect could be evaluated by comparing the WISC–IV baseline sample with the matched control, because in the baseline sample the WISC–IV was given before the WASI–II so procedural learning is irrelevant.

Table 2 presents the matched-control study of the baseline sample. A slight score increase (1.2 points) was observed on the PRI but no inflation presents in FSIQ and VCI. There is no significant difference between performance of children who were given the WISC–IV first and those in the matched sample. The effect sizes, which were calculated as the standard difference on all three composites, are small. Therefore, the influence of the Flynn effect on score inflation is expected to be minimal.

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Table 2 Comparison of WISC–IV Composite Scores: Baseline Sample (*N* = 100)

	Observed		Matched-Control		Difference	Effect Size	*t*-value	*p*
	Mean	STD	Mean	STD				
FSIQ	100.4	13.0	100.8	12.0	0.48	0.04	.31	.76
VCI	99.2	12.0	100.4	14.2	1.14	0.09	.72	.47
PRI	101.5	15.2	100.3	11.9	–1.18	0.09	–.69	.49

Table 3 shows the mean comparisons on the WASI–II sample where the WASI–II was given before the WISC–IV. On the obtained composite scores, there are 2.3, 1.7, and 6.2 points difference on the FSIQ, VCI, and PRI, respectively, between the WASI–II sample and the matched sample. The WASI–II sample scores are all higher than the matched controls. Given the results from the baseline sample (Table 2), it is expected that the higher observed scores are largely due to procedural learning from the WASI–II administration prior to the WISC–IV.

Table 3 also shows that when the WASI–II subtest scores were used to substitute the corresponding subtests in the WISC–IV, the resulting scores are lower than the inflated (i.e., obtained) scores and the difference from the matched controls is minimized. Precisely, the WASI–II-substituted composite scores differ from the matched control by 0.2, 1.1, and 1.0 points on the FSIQ, VCI, and PRI, respectively.

The alternative to substitution is omitting a subtest in the composite that may be the most subjective to procedural learning. These results are presented also in Table 3. It is found that on the VCI, the estimated composite is closer to the matched-control mean when the Similarities subtest was omitted (VCI_noSI, 101.9, or 1.4 points difference from matched control). On the PRI, Block Design is more susceptive to procedural learning and the estimated PRI is closer to the matched control when this subtest was omitted (PRI_noBD, 107.0, or 4.4 points difference from matched control). Consequently, the FSIQ estimate is closest to the matched sample when Similarities and Block Design were discounted (FSIQ_noSIBD, 103.7, or 1 point difference from matched control). Among all proration scenarios studied, however, no prorated composite score is closer to the matched-control sample than the estimated scores using the WASI–II substitution approach.

Table 3 Comparison of WISC–IV Composite Scores: WASI–II Sample ($N = 101$)

	Obtained		Matched-Control		WASI–II Substitution		WISC–IV Proration		
Composite	Mean	STD	Mean	STD	Mean	STD	Est. Score	Mean	STD
FSIQ	105.0	13.3	102.7	12.9	102.5	12.9	FSIQ_noSIBD	103.7	13.4
FSIQ	105.0	13.3	102.7	12.9	102.5	12.9	FSIQ_noSIMR	105.0	13.0
FSIQ	105.0	13.3	102.7	12.9	102.5	12.9	FSIQ_noVCBD	104.6	13.4
FSIQ	105.0	13.3	102.7	12.9	102.5	12.9	FSIQ_noVCMR	105.8	13.1
VCI	102.8	13.5	100.5	12.7	101.6	12.7	VCI_noSI	101.9	13.5
VCI	102.8	13.5	100.5	12.7	101.6	12.7	VCI_noVC	104.0	13.8
PRI	108.8	14.5	102.6	13.0	103.6	13.4	PRI_noBD	107.0	15.9
PRI	108.8	14.5	102.6	13.0	103.6	13.4	PRI_noMR	110.0	14.6

Comparisons of the Discrepancies

Table 4 reports the percentages of the WASI–II sample obtaining various differences between the obtained and estimated composite scores by substitution. The results are presented for the overall sample and by ability level classified using the WASI–II 4-Subtest FSIQ. Overall, 91.8%, 84.5%, and 59.8% of the discrepancies are less than or equal to 7 points for the FSIQ, VCI, and PRI, respectively. There is not much variation on the percentages of discrepancies for FSIQ and VCI at different ability level. For VCI and PRI, however, the substitution outcome seems to be more accurate for low to low-middle ability ranges than for examinees in higher ability ranges. Thus, the WASI–II substitution was more accurate on the FSIQ than for the VCI and PRI. This is likely because the percentages of subtests substituted are higher for index scores (67%) than for the FSIQ (40%). The relatively larger discrepancy on the PRI suggests that there may be more variability in performance on perceptual reasoning due to factors such as practice, examinee engagement or effort, etc.

Table 4 Percentages of the Various Discrepancies between the Obtained and WASI–II Substituted Composite Scores by Ability

Composite	Discrepancy	Ability Level by WASI–II FSIQ (4-Subtest)				Total
		40–84	85–100	101–115	116–160	
FSIQ	+/–3	83.3	58.1	50.0	72.2	59.8
	+/–5	100.0	81.4	73.4	72.2	78.4
	+/–7	100.0	93.0	86.7	94.4	91.8
VCI	+/–3	33.3	32.6	30.0	38.9	33.0
	+/–5	100.0	72.1	56.7	61.1	67.0
	+/–7	100.0	88.4	80.0	77.8	84.5
PRI	+/–3	33.3	32.6	30.0	33.3	32.0
	+/–5	50.0	51.2	36.7	38.9	44.3
	+/–7	66.7	65.1	53.3	55.6	59.8

Implications of the Analyses

If the WASI–II has been administered and administration of the WISC–IV is necessary, administering the WISC–IV subtests that parallel the WASI–II subtests may result in repeated administration effects that influence the WISC–IV subtest scores and composite scores. Using the WASI–II substitution produced more consistent measurement results. Therefore, WASI–II substitution is recommended as a best practice consideration that balances accuracy and efficiency.

There are some limitations to this research which may place restriction on the interpretation and generalizability of the results. For example, discrepancies between scores by substitution and obtained scores may exist because the sample used to evaluate substitution took the WASI–II and the WISC–IV in full. When the discrepancies are presented by ability level, the sample sizes are relatively small in each ability group. Prior research has demonstrated that retest value gains vary according to ability level (Rapport, Brines, Axelrod, & Theisen, 1997). Therefore, it is possible that more or fewer differences/similarities across ability levels exist than those demonstrated in the present study. Furthermore, the research samples were composed of nonclinical children only, and the results, therefore, may not generalize to clinical populations.

Procedures for WASI–II Substitution

Subtest Administration Order

Table 5 presents the source of the subtest (i.e., WASI–II or WISC–IV) and the subtest administration order to be used when various WISC–IV composite scores will be derived using WASI–II scores. The administration order of the remaining WISC–IV subtests should follow the subtest order on the WISC–IV Record Form. In order to establish rapport with the child before the administration of the WISC–IV, the examiner may engage the child in a relaxing or fun task prior to starting with Digit Span.

Table 5 Subtest Administration Order When Deriving WISC–IV Composite Scores Using WASI–II Subtest Scores

Subtest Order	Source	WISC–IV Composite Score		
		FSIQ	VCI	PRI
Block Design	WASI–II	✓		✓
Vocabulary	WASI–II	✓	✓	
Matrix Reasoning	WASI–II	✓		✓
Similarities	WASI–II	✓	✓	
Digit Span	WISC–IV	✓		
Picture Concepts	WISC–IV	✓		✓
Coding	WISC–IV	✓		
Letter–Number Sequencing	WISC–IV	✓		
Comprehension	WISC–IV	✓	✓	
Symbol Search	WISC–IV	✓		

Testing Interval

Minimizing the time that elapses between administration of the WASI–II and the remaining WISC–IV subtests is recommended as best practice. Intervening events in the child's life and changes in the child's cognitive development between administration of the WASI–II and administration of the remaining WISC–IV subtests may decrease consistency of results and increase difficulty in interpretation. However, it is left to the clinical judgment of the practitioner to determine whether the testing interval is appropriate, given the examinee's individual situation.

Using WASI–II Scaled Scores to Derive WISC–IV Composite Scores

After the WASI–II subtest *T* scores are derived, use the following steps to determine the child's scaled score for each of the WASI–II subtests. The WASI–II converted subtest scaled scores are then summed with the remaining WISC–IV subtest scaled scores to derive the desired composite scores (e.g., VCI, PRI, and FSIQ).

Step 1. Converting WASI–II *T* Scores to Scaled Scores

To convert *T* scores to scaled scores, use Table A.2 in the WASI–II Manual. For each WASI–II subtest, locate the child's *T* score. Read across the row to the Scaled Score column.

Step 2. Recording the WASI–II Converted Scaled Scores on the WISC–IV Record Form

On the front page of the WISC–IV Record Form, locate the Total Raw Score to Scaled Score Conversions table. To ensure that the substitution is clear to others who may access records in the future, do not record the WASI–II subtest total raw scores on the WISC–IV Record Form. Record only the WASI–II subtest scaled scores in the column immediately to the right of the Raw Score column and in every unshaded box to the right. For example, the WASI–II Matrix Reasoning converted scaled score is entered in the first column under Scaled Scores and in the columns labeled Perc. Rsng. and Full Scale. Clearly indicate above the Total Raw Score to Scaled Score Conversions table that substitution was used by noting, for example, "WASI–II converted scores used for BD, SI, MR, and VC subtest scaled scores." Examiners may wish to mark through the Block Design, Similarities, Vocabulary, and Matrix Reasoning sections of the WISC–IV Record Form as a reminder not to administer those WISC–IV subtests. If possible, attach the WASI–II Record Form to the WISC–IV Record Form after the WISC–IV has been administered and scored.

Step 3. Completing the WISC–IV Record Form Summary Page

After the WASI–II converted subtest scaled scores have been recorded, refer to the Completing the Summary Page section of Chapter 2 in the *WISC–IV Administration and Scoring Manual* (Wechsler, 2003) to finish calculating the desired WISC–IV composite scores.

Substituting WASI–II Scores When Using the WISC–IV Scoring Assistant

When the WISC–IV Scoring Assistant is used with WASI–II substitution, it is necessary to derive a raw total score for each substituted subtest to enter into the Scoring Assistant. Table 6 provides raw score equivalents by age for this purpose. Follow two simple steps: First, locate the section in Table 6 that corresponds to the child's age at testing. Second, find the *T* score for one WASI–II subtest and read across to the column for that subtest to obtain the WISC–IV raw score equivalent. Do this for each of the four WASI–II subtests.

Enter the subtest raw scores obtained from the table for the substituted subtests in the WISC–IV Scoring Assistant. Clearly indicate in the comments field or elsewhere in the final report that substitution was used by noting, for example, "WASI–II converted scores used for BD, SI, MR, and VC subtest scaled scores."

Conclusion

Although it is best practice to administer the full WISC–IV if the WASI–II has not been administered, WASI–II substitution is recommended as a best practice consideration due to repeated administration effects, particularly if the WASI–II has been administered relatively recently (i.e., within 2–12 weeks prior to WISC–IV administration). If the practitioner is concerned that repeated administration effects continue to impact performance after longer intervals (e.g., 6 months), WASI–II substitution might be utilized with more caution in these cases. These concerns will vary across ability level and across individuals, as will intervening events and cognitive development between administration of the WASI–II and the WISC–IV; therefore, the practitioner should use clinical judgment in determining if substitution is appropriate in the child's individual case. In cases where WASI–II substitution is utilized, it is recommended that practitioners specify in the testing report that WISC–IV scores were derived by WASI–II substitution.

Table 6 WISC–IV Subtest Raw Score Equivalents for WASI–II *T* Scores for Substitution Using WISC–IV Scoring Assistant

T Score	Ages 6:0–6:3				Ages 6:4–6:7				Ages 6:8–6:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	1	2	1	0	1	2	1	0	1	3	1	0	22–24
25–28	2	4	1	1	2	4	2	1	2	5	3	1	25–28
29–31	3	6	2	2	3	6	3	2	3	7	4	2	29–31
32–34	4	8	3	3	4	8	4	3	4	9	5	3	32–34
35–38	5	10	4	4	5	10	5	4	5	11	6	4	35–38
39–41	6	12	5	5	6	12	6	5	6	13	7	6	39–41
42–44	8	13	6	6	8	14	8	6	8	15	9	7	42–44
45–48	11	15	8	7	11	16	9	7	11	17	10	9	45–48
49–51	13	17	9	8	13	18	11	9	14	19	12	10	49–51
52–54	15	18	11	9	16	19	12	10	18	21	13	12	52–54
55–58	17	20	12	11	19	21	13	12	21	23	15	14	55–58
59–61	20	22	13	13	22	23	15	14	24	25	17	16	59–61
62–64	24	24	15	15	25	25	17	16	27	27	18	18	62–64
65–68	29	26	17	17	29	27	18	18	30	29	19	20	65–68
69–71	34	28	18	19	34	29	19	20	34	31	21	22	69–71
72–74	40	30	19	21	40	31	21	22	40	34	22	24	72–74
75–78	46	32	21	23	46	33	22	24	46	37	23	26	75–78
79–80	53	34	22	25	53	36	23	26	53	40	25	28	79–80

T Score	Ages 7:0–7:3				Ages 7:4–7:7				Ages 7:8–7:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	2	4	2	1	2	4	3	1	2	4	3	1	22–24
25–28	3	6	3	2	3	6	4	2	3	8	4	2	25–28
29–31	4	8	4	3	4	8	5	3	4	10	5	3	29–31
32–34	5	10	5	4	5	10	6	4	5	12	6	4	32–34
35–38	6	12	6	5	6	12	7	5	7	14	8	6	35–38
39–41	8	14	8	6	8	15	9	7	9	16	10	8	39–41
42–44	11	16	9	7	11	17	10	8	12	19	12	10	42–44
45–48	13	18	11	9	14	19	12	10	15	21	13	11	45–48
49–51	16	19	12	10	18	21	13	11	19	23	15	13	49–51
52–54	19	21	13	12	21	23	15	13	22	26	16	15	52–54
55–58	22	23	15	14	24	26	17	15	25	28	18	16	55–58
59–61	25	26	17	16	27	28	18	17	28	30	20	18	59–61
62–64	29	28	18	18	30	30	20	19	32	33	22	20	62–64
65–68	34	30	20	20	34	33	22	21	36	35	23	22	65–68
69–71	39	33	22	22	39	35	23	23	41	37	24	25	69–71
72–74	45	35	23	24	45	37	24	25	46	39	25	27	72–74
75–78	51	37	24	26	51	39	25	27	51	41	26	29	75–78
79–80	57	41	26	29	57	41	26	29	57	44	28	31	79–80

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Table 6 WISC–IV Subtest Raw Score Equivalents for WASI–II *T* Scores for Substitution Using WISC–IV Scoring Assistant *(continued)*

T Score	Ages 8:0–8:3				Ages 8:4–8:7				Ages 8:8–8:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	3	6	4	1	3	8	4	1	3	8	4	1	22–24
25–28	4	8	5	2	4	10	5	2	4	10	5	2	25–28
29–31	5	10	6	3	5	12	6	3	5	12	6	3	29–31
32–34	6	12	7	5	7	14	8	6	7	14	8	6	32–34
35–38	8	15	9	7	9	16	10	8	10	17	10	8	35–38
39–41	11	17	10	8	12	19	12	10	14	19	12	10	39–41
42–44	14	19	12	10	15	21	13	12	18	22	14	12	42–44
45–48	18	21	13	12	19	24	15	13	21	25	16	14	45–48
49–51	21	24	15	13	22	26	16	15	24	27	18	16	49–51
52–54	24	26	17	15	25	28	18	16	27	30	20	18	52–54
55–58	27	28	18	17	28	31	20	18	31	32	22	20	55–58
59–61	30	31	20	19	32	33	22	20	35	35	23	22	59–61
62–64	34	33	22	21	36	35	23	22	39	37	25	24	62–64
65–68	39	35	23	23	41	38	25	25	43	40	26	27	65–68
69–71	45	38	25	25	46	40	26	27	47	42	27	28	69–71
72–74	51	40	26	27	51	42	27	29	51	44	28	30	72–74
75–78	56	42	27	29	56	44	28	31	56	46	29	32	75–78
79–80	60	46	29	33	60	46	29	33	60	49	30	34	79–80

T Score	Ages 9:0–9:3				Ages 9:4–9:7				Ages 9:8–9:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	4	10	5	1	4	10	5	1	4	10	5	1	22–24
25–28	5	12	6	2	5	12	6	2	5	12	6	2	25–28
29–31	7	14	8	4	7	14	8	4	7	14	8	4	29–31
32–34	9	16	10	7	10	17	10	7	10	17	10	7	32–34
35–38	12	19	12	9	14	19	12	9	14	19	12	9	35–38
39–41	15	21	13	11	18	22	14	11	18	22	14	11	39–41
42–44	19	24	15	13	21	25	16	14	21	25	16	14	42–44
45–48	22	26	16	15	24	27	18	16	24	28	18	16	45–48
49–51	25	28	18	16	27	30	20	18	27	31	20	18	49–51
52–54	28	31	20	18	31	32	22	20	31	33	22	20	52–54
55–58	32	33	22	20	35	35	24	22	35	36	24	22	55–58
59–61	36	35	24	22	39	37	25	24	40	39	25	25	59–61
62–64	41	38	25	25	43	40	26	27	44	41	26	27	62–64
65–68	46	40	26	27	47	43	27	28	48	44	27	29	65–68
69–71	51	43	27	29	51	45	28	30	51	46	28	31	69–71
72–74	55	45	28	31	55	47	29	32	55	49	29	32	72–74
75–78	58	47	29	33	58	49	30	34	58	51	30	34	75–78
79–80	61	51	31	36	61	51	31	36	61	53	31	36	79–80

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Table 6 WISC–IV Subtest Raw Score Equivalents for WASI–II *T* Scores for Substitution Using WISC–IV Scoring Assistant *(continued)*

T Score	Ages 10:0–10:3				Ages 10:4–10:7				Ages 10:8–10:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	4	12	6	1	4	12	6	1	4	12	6	1	22–24
25–28	6	14	8	3	6	14	8	3	6	14	8	3	25–28
29–31	9	17	10	6	9	17	10	6	9	17	10	6	29–31
32–34	13	19	12	9	13	19	12	9	13	19	12	9	32–34
35–38	17	22	14	11	17	22	14	11	17	22	14	11	35–38
39–41	20	25	16	13	20	25	16	13	20	25	16	13	39–41
42–44	23	27	18	16	23	28	18	16	23	28	18	16	42–44
45–48	27	30	19	18	27	31	19	18	27	31	19	18	45–48
49–51	31	32	20	20	31	33	20	20	31	33	20	20	49–51
52–54	35	35	22	22	35	36	22	22	35	36	22	22	52–54
55–58	39	37	24	24	40	39	24	25	40	39	24	25	55–58
59–61	43	40	26	27	44	41	26	27	45	41	26	27	59–61
62–64	47	43	27	28	48	44	27	29	49	44	27	29	62–64
65–68	51	45	28	30	51	46	28	31	52	46	28	31	65–68
69–71	54	47	29	32	54	49	29	32	55	49	29	32	69–71
72–74	57	49	30	34	57	51	30	34	58	52	30	34	72–74
75–78	60	51	31	36	60	53	31	36	60	54	31	36	75–78
79–80	62	55	32	38	62	55	32	38	62	56	32	38	79–80

T Score	Ages 11:0–11:3				Ages 11:4–11:7				Ages 11:8–11:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	5	14	7	1	5	14	7	1	5	14	7	1	22–24
25–28	8	16	9	4	8	16	9	4	8	16	9	4	25–28
29–31	11	19	11	7	11	19	11	7	11	19	11	7	29–31
32–34	15	22	13	10	15	22	13	10	15	22	13	10	32–34
35–38	19	24	15	13	19	24	15	13	19	24	15	13	35–38
39–41	23	27	17	16	23	27	17	16	23	27	17	16	39–41
42–44	26	30	18	18	26	30	18	18	26	30	18	18	42–44
45–48	30	33	20	20	30	33	20	20	30	33	20	20	45–48
49–51	35	36	22	22	35	36	22	22	35	36	22	22	49–51
52–54	40	38	24	24	40	38	24	24	40	38	24	24	52–54
55–58	44	41	26	26	45	41	26	26	45	41	26	26	55–58
59–61	48	44	27	28	49	44	27	28	49	44	27	28	59–61
62–64	51	46	28	30	52	46	28	30	52	47	28	30	62–64
65–68	54	49	29	32	55	49	29	32	55	49	29	32	65–68
69–71	57	51	30	33	58	52	30	33	58	52	30	34	69–71
72–74	60	53	31	35	60	54	31	35	60	54	31	35	72–74
75–78	62	55	32	38	62	56	32	38	62	56	32	38	75–78
79–80	63	58	33	40	63	58	33	40	63	58	33	40	79–80

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Table 6 WISC–IV Subtest Raw Score Equivalents for WASI–II *T* Scores for Substitution Using WISC–IV Scoring Assistant *(continued)*

T Score	Ages 12:0–12:3				Ages 12:4–12:7				Ages 12:8–12:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	6	16	8	2	6	16	8	2	6	16	8	2	22–24
25–28	9	18	10	5	9	18	10	5	9	18	10	5	25–28
29–31	13	21	12	8	13	21	12	8	13	21	12	8	29–31
32–34	17	24	14	11	17	24	14	11	17	24	14	11	32–34
35–38	21	27	16	14	21	27	16	14	21	27	16	14	35–38
39–41	25	29	18	17	25	29	18	17	25	29	18	17	39–41
42–44	29	32	20	19	29	32	20	19	29	32	20	19	42–44
45–48	34	35	21	21	34	35	21	21	35	35	21	21	45–48
49–51	39	38	23	24	39	38	23	24	40	38	23	24	49–51
52–54	44	41	25	26	44	41	25	26	44	41	25	26	52–54
55–58	48	44	27	28	48	44	27	28	48	44	27	28	55–58
59–61	52	46	28	30	52	47	28	30	52	47	28	30	59–61
62–64	55	49	29	32	55	49	29	32	55	49	29	32	62–64
65–68	58	52	30	33	58	52	30	34	58	52	30	34	65–68
69–71	60	54	31	35	60	54	31	35	60	54	31	35	69–71
72–74	62	56	32	38	62	56	32	38	62	56	32	38	72–74
75–78	63	58	33	40	63	58	33	40	63	59	33	40	75–78
79–80	64	60	34	42	64	60	34	42	64	61	34	42	79–80

T Score	Ages 13:0–13:3				Ages 13:4–13:7				Ages 13:8–13:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	7	17	9	3	7	17	9	3	7	17	9	3	22–24
25–28	10	20	11	6	10	20	11	6	10	20	11	6	25–28
29–31	14	23	13	9	14	23	13	9	14	23	13	9	29–31
32–34	19	26	15	12	19	26	15	12	19	26	15	12	32–34
35–38	24	29	17	15	24	29	17	15	24	29	17	15	35–38
39–41	29	31	19	18	29	31	19	18	29	31	19	18	39–41
42–44	34	34	21	20	35	34	21	20	35	34	21	20	42–44
45–48	39	37	23	22	40	37	23	22	40	37	23	22	45–48
49–51	44	40	24	25	44	40	24	25	44	40	24	25	49–51
52–54	48	43	26	27	48	43	26	27	48	43	26	27	52–54
55–58	51	46	27	29	51	46	27	29	51	46	27	29	55–58
59–61	54	49	28	31	54	49	28	31	54	49	28	31	59–61
62–64	57	52	29	33	57	52	29	33	57	52	29	33	62–64
65–68	60	54	30	35	60	54	30	35	60	54	30	35	65–68
69–71	62	56	31	37	62	56	31	37	62	56	31	37	69–71
72–74	63	58	32	39	63	59	32	39	63	59	32	39	72–74
75–78	64	60	34	41	64	61	34	41	64	61	34	41	75–78
79–80	65	63	35	43	65	63	35	43	65	63	35	43	79–80

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Table 6 WISC–IV Subtest Raw Score Equivalents for WASI–II *T* Scores for Substitution Using WISC–IV Scoring Assistant *(continued)*

T Score	Ages 14:0–14:3				Ages 14:4–14:7				Ages 14:8–14:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	9	18	10	4	9	18	10	4	9	18	10	4	22–24
25–28	12	21	11	7	12	21	11	7	12	21	11	7	25–28
29–31	16	24	13	10	16	24	13	10	16	24	13	10	29–31
32–34	21	27	15	13	21	27	15	13	21	27	15	13	32–34
35–38	26	29	17	16	26	29	17	16	26	29	17	16	35–38
39–41	31	32	19	19	31	32	19	19	31	32	19	19	39–41
42–44	36	35	21	22	36	35	21	22	36	35	21	22	42–44
45–48	41	38	23	24	41	38	23	24	41	38	23	24	45–48
49–51	46	42	25	26	46	42	25	26	46	42	25	26	49–51
52–54	50	45	26	28	50	45	26	28	50	45	26	28	52–54
55–58	53	48	27	30	53	48	27	30	53	48	27	30	55–58
59–61	56	51	29	32	56	51	29	32	56	51	29	32	59–61
62–64	58	54	30	34	58	54	30	34	58	54	30	34	62–64
65–68	61	56	31	36	61	56	31	36	61	57	31	36	65–68
69–71	63	59	32	38	63	59	32	38	63	60	32	38	69–71
72–74	64	61	33	40	64	61	33	40	64	62	33	40	72–74
75–78	65	63	34	42	65	63	34	42	65	64	34	42	75–78
79–80	66	65	35	44	66	65	35	44	66	66	35	44	79–80

T Score	Ages 15:0–15:3				Ages 15:4–15:7				Ages 15:8–15:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	10	20	10	5	10	20	10	5	10	20	10	5	22–24
25–28	14	23	12	8	14	23	12	8	14	23	12	8	25–28
29–31	18	26	14	11	18	26	14	11	19	26	14	11	29–31
32–34	23	29	16	14	23	29	16	14	23	29	16	14	32–34
35–38	28	32	18	17	28	32	18	17	28	32	18	17	35–38
39–41	34	35	20	20	34	35	20	20	34	35	20	20	39–41
42–44	39	38	22	23	39	38	22	23	39	38	22	23	42–44
45–48	44	41	23	26	44	41	23	26	44	41	23	26	45–48
49–51	48	44	25	28	48	44	25	28	48	44	25	28	49–51
52–54	52	47	27	30	52	47	27	30	52	47	27	30	52–54
55–58	55	50	28	32	55	50	28	32	55	50	28	32	55–58
59–61	57	54	29	33	57	54	29	33	57	54	29	33	59–61
62–64	60	56	30	35	60	57	30	35	60	57	30	35	62–64
65–68	62	59	31	37	62	60	31	37	62	60	31	37	65–68
69–71	64	61	32	39	64	62	32	39	64	62	32	39	69–71
72–74	65	63	33	41	65	64	33	41	65	64	33	41	72–74
75–78	66	65	34	43	66	66	34	43	66	66	34	43	75–78
79–80	67	68	35	44	67	68	35	44	67	68	35	44	79–80

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Table 6 WISC–IV Subtest Raw Score Equivalents for WASI–II *T* Scores for Substitution Using WISC–IV Scoring Assistant *(continued)*

T Score	Ages 16:0–16:3				Ages 16:4–16:7				Ages 16:8–16:11				*T* Score
	BD	VC	MR	SI	BD	VC	MR	SI	BD	VC	MR	SI	
20–21	0	0	0	0	0	0	0	0	0	0	0	0	20–21
22–24	13	23	10	6	13	23	10	6	15	23	10	6	22–24
25–28	18	26	12	9	19	26	12	9	19	26	12	9	25–28
29–31	22	29	14	13	22	29	14	13	22	29	14	13	29–31
32–34	26	32	16	16	26	32	16	16	26	32	16	16	32–34
35–38	31	35	18	20	31	35	18	20	31	35	18	20	35–38
39–41	36	38	20	23	36	38	20	23	36	38	20	23	39–41
42–44	41	41	22	25	41	41	22	25	41	41	22	25	42–44
45–48	46	43	24	27	46	43	24	27	46	43	24	27	45–48
49–51	50	46	26	29	50	46	26	29	50	46	26	29	49–51
52–54	53	49	27	31	53	49	27	31	53	49	27	31	52–54
55–58	56	52	28	33	56	52	28	33	56	52	28	33	55–58
59–61	59	55	29	35	59	55	29	35	59	55	29	35	59–61
62–64	61	58	30	37	61	58	30	37	61	58	30	37	62–64
65–68	63	61	31	38	63	61	31	38	63	61	31	38	65–68
69–71	65	63	33	40	65	63	33	40	65	63	33	40	69–71
72–74	66	65	34	42	66	65	34	42	66	65	34	42	72–74
75–78	67	67	35	43	67	67	35	43	67	67	35	43	75–78
79–80	68	68	35	44	68	68	35	44	68	68	35	44	79–80

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