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A Windows Program to Assist in Writing Reports for the Mexican WAIS-III

Un programa Windows para asistir la redacción de reportes del WAIS-III Mexicano

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Abstract
The WAIS Assistant is a new tool that can facilitate reporting the results of testing with the Mexican Wechsler Adult Intelligence Scale-Third Edition with U.S. norms. The Assistant has a Spanish language user interface and produces draft reports in Spanish, which should be edited and merged with additional information. This Windows program is available at no charge to qualified psychologists.
Key Words: Mexican WAIS-III, computer assisted test interpretation.

Resumen
El Asistente WAIS es una herramienta nueva que tiene como objetivo facilitar el informe de los resultados de la evaluación con la Escala de inteligencia Wechsler para adultos - Tercera edición (versión Mexicana), cuando se utiliza las normas Estadounidenses. El Asistente tiene un interface en español y produce un informe preliminar en español, que debe editarse e integrarse con información adicional de acuerdo a los estándares de informes psicológicos. Este programa de Windows es gratis para psicólogos calificados.
Palabras Claves: WAIS-III Mexicano, interpretación de tests con ayuda de computadores

A Windows Program to Assist in Writing Reports for the Mexican WAIS-III

The many versions of the Wechsler scales are among the most frequently used intelligence tests (Butler, Retzlaff, & Vanderploeg, 1991; Camara, Nathan, & Puente, 2000; Daniel, 1997; Kaufman & Kaufman, 2001; Lubin, Wallis, & Paine, 1971; Rabin, Barr, & Burton, 2005; Sullivan & Bowden, 1997). The Wechsler Adult Intelligence Scale for Adults-III has been published in versions for many countries, including Mexico (Escala Wechsler, 2003a). The Escala Wechsler de Inteligencia para Adultos-III, or Mexican WAIS, uses the same subtests and items as the U.S. version, with only "minor changes in wording and slight changes of some item ordering" (Suen & Greenspan, 2008).

Suen and Greenspan (2008) identify six technical problems with the norms for the Mexican WAIS, five of which apply to any use of those norms: 1) poor or unknown reliability; 2) a poorly defined standardization sample; 3) apparent lack of score normalization; 4) inadequate representation of certain groups in the standardization sample; and 5) incorrect statistics and calculations. They conclude that the Mexican norms "are so deficient that they should not be used for any purpose" (p3). Fortunately, the technical manual for the Mexican WAIS (Escala Wechsler, 2003b) includes the U.S. norms, making use of them convenient for those who prefer the U.S. to the Mexican norms.

Because psychologists spend so much of their assessment time on interpretation and report writing (Sweet, Peck, Abramowitz, & Etzweiler, 2002), a computer program that can help with these tasks has the potential to save substantial time and effort. For those psychologists who choose to use the U.S. norms with the Mexican WAIS, we offer a Spanish language computer program to help interpret test results and prepare a draft report. This program is based on one developed for writing WAIS-III reports in English (Tanner, 2008). The program described below, has been extensively rewritten, has a Spanish interface and produces draft reports in Spanish.

Target Audience

The WAIS Assistant is intended for psychologists who are competent with the Mexican WAIS and who are aware of the limitations of computer-generated reports (Fowler, 1985; Matarazzo, 1985; 1986; Honaker, Hector, & Harrell, 1986; Prince & Guastello, 1990). Because of these limitations, the WAIS Assistant's draft reports must be edited and merged with other data. While this is consistent with professional guidelines (Guidelines, 1986), current practices (McMinn, Ellens, & Soref, 1999) and the conclusions of a recent review of computer-generated reports (Butcher, Perry, & Atlis, 2000), some psychologists believe that any use of computer-generated text in psychologist-written reports is unethical (McMinn, Ellens, & Soref, 1999).

The Assistant is intended for use only with the complete Mexican WAIS because short forms have decreased reliability (Lezac, 1995). Furthermore, the Assistant produces statements regarding the statistical significance of differences among subtests, and those statements will be inaccurate when subtests are abbreviated. Finally, the program is suitable only for those psychologists willing to use the U.S. norms for testing the significance of differences, as the thresholds for significance built into the Assistant are based on those norms.

Use of the Program

The user enters the patient's identifying information, scaled scores, IQs and index scores, as well as confidence intervals for the IQs and indexes. The psychologist must obtain the standardized scores from the WAIS manual, because they are based on copyrighted norms. It is essential that only U.S. standard scores and intervals are used because the Assistant determines significance based on the U.S. norms. The psychologist also selects either the .01 or .05 level of significance to be used by the program when examining differences between scores. Finally, the user indicates whether 90% or 95% confidence intervals are used.

Figure 1 shows the Assistant with data for a hypothetical 37-year-old male, Mr. García. A significance level of 5% and a confidence interval of 90% were used for this example, although 1% and 95% values are also available. The program uses a more stringent default value for the significance of the differences between scores (5%) than for the confidence interval surrounding individual scores (90%), because the difference between two scores is less reliable than are the individual scores (Magnusson, 1967). Mr. García obtained Verbal scaled scores ranging from 5 to 15, and Performance

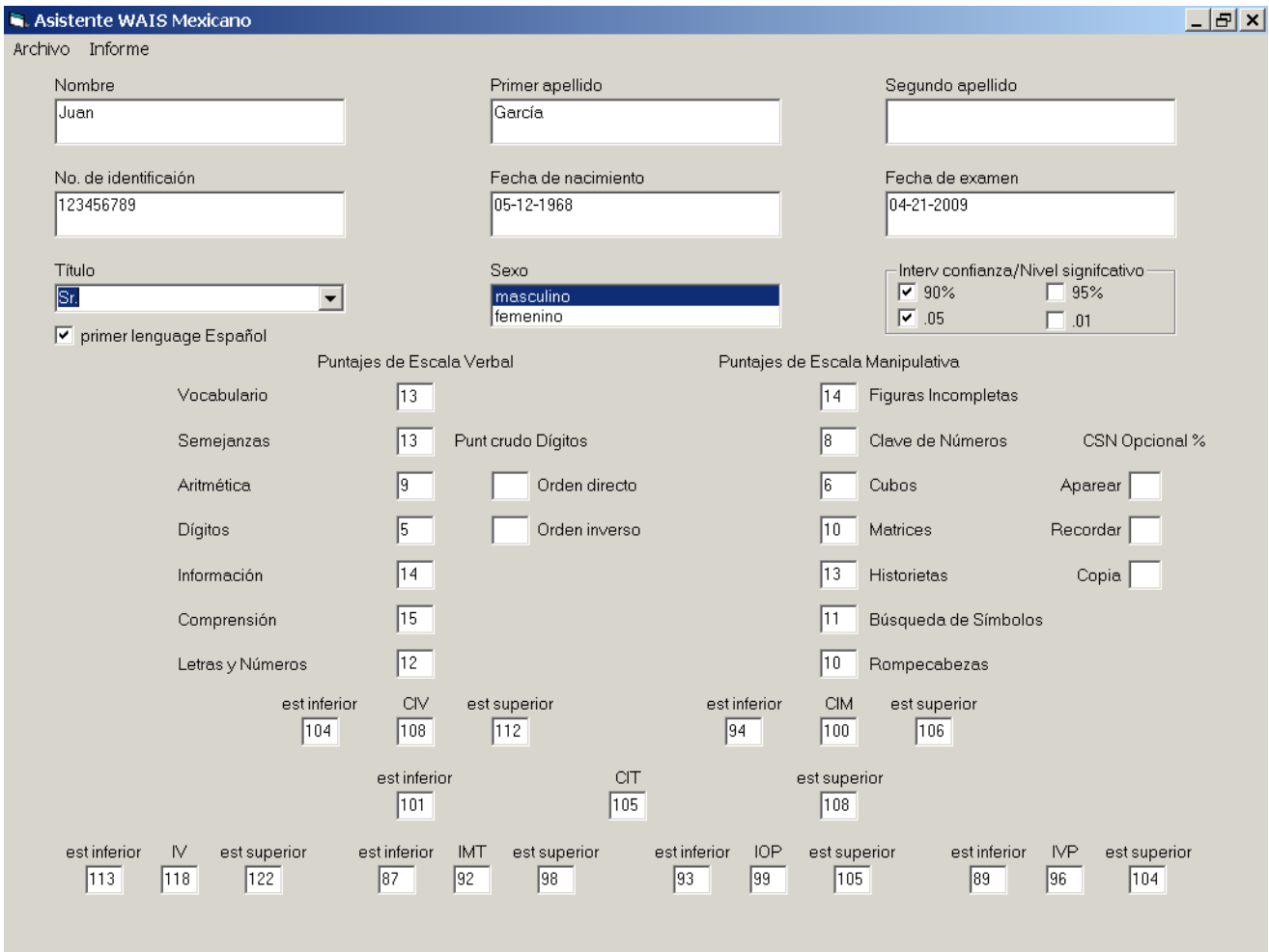

Figure 1. WAIS Assistant's screen with data.

scaled scores from 6 to 14. He obtained a Verbal IQ of 108, with a 90% confidence interval between 104 and 112, and a Performance IQ of 100, with a 90% confidence interval between 94 and 106. The psychologist did not enter the raw data for the number of digits that the patient remembered or the percentiles for the three optional subtests.

When the psychologist clicks on the report menu, a standard Windows dialogue appears for saving the data. The program saves the results in a file with the name entered by the psychologist. This .rtf file can be opened, read and edited with most word processing programs.

Figure 2 shows the draft report for Mr. García opened in Microsoft Word XP, just as it was produced and saved by the Assistant. The scores are organized in a traditional manner, with a hyphenated letter following each score that is a relative strength (- F) or weakness (- D) for Mr. García, based on the 5% significance level selected. For example, Mr. García's scaled score of 9 on Arithmetic is a significant weakness in comparison to his 11.6 average on the Verbal Scale, while his scaled score of 14 on Picture Arrangement is a significant strength compared to his 10.3 average for the Performance Scale.

The report provides a brief introduction to the WAIS after the list of scores. The introduction is followed by a description of the patient's performance on the test, generally following the interpretive steps outlined by Kaufman and Lichtenberger (2004). This description moves from the general to the specific, looking in turn at the Full Scale IQ, the Verbal and Performance IQs, the Indexes, and the individual subtests.

The Assistant determines if the Full Scale IQ can be considered representative of the patient's overall

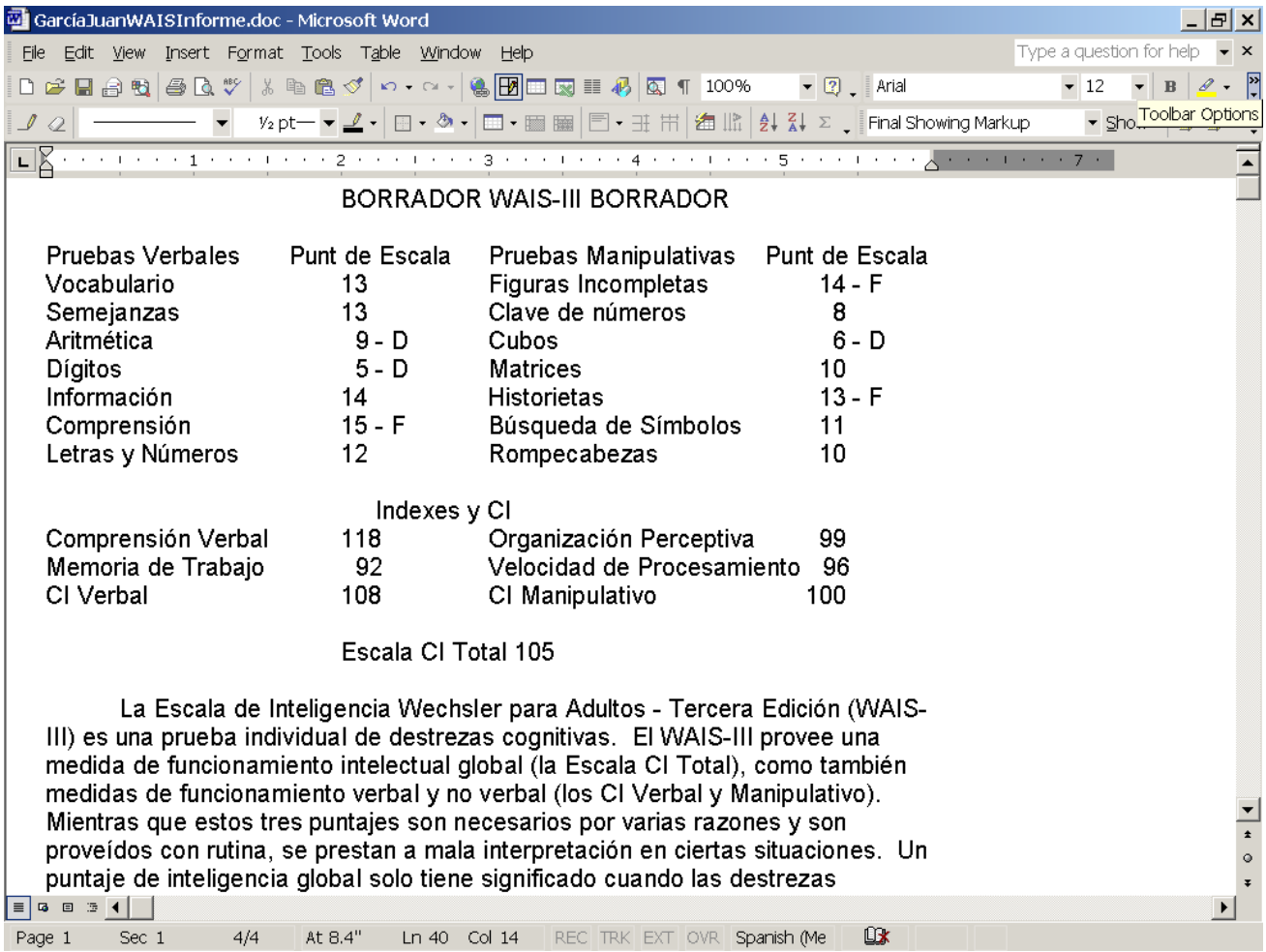

Figure 2. Sample output in Spanish from the WAIS Assistant.

cognitive abilities. If the Verbal and Performance IQs or the Verbal Comprehension and Perceptual Organization Indexes differ significantly, the Assistant indicates that the Full Scale IQ is merely an average of very different performances on the WAIS, and that the verbal and non-verbal skills should be considered separately. The Assistant compares the patient's scores with the average of the standardization sample at the significance level chosen by the psychologist. The Assistant does not use the .15 value included in the WAIS manual, because .15 allows for too much error (Kaufman & Lichtenberger, 2004).

If the Verbal versus Performance difference is statistically significant, the Assistant next determines if that difference is abnormally large. A particular difference may be statistically significant although a difference of that size is relatively common among the standardization sample (Kaufman & Lichtenberger, 2004). The Assistant identifies a difference as abnormal only if it is approximately one standard deviation greater than the mean difference for the standardization sample (Kaufman & Lichtenberger, 2004). A difference of at least 17 points between the Verbal and Performance IQs, or at least 19 points between the Verbal Comprehension and the Perceptual Organization Indexes will be considered abnormal.

The Assistant then uses two criteria to determine if the person's verbal or nonverbal skills should be represented with a single score (Kaufman & Lichtenberger, 2004). First, if the factors that comprise either the VIQ or PIQ differ significantly, that IQ is not a meaningful summary of those skills. Second, if the range of scaled scores within an IQ is at least one standard deviation above the mean range for

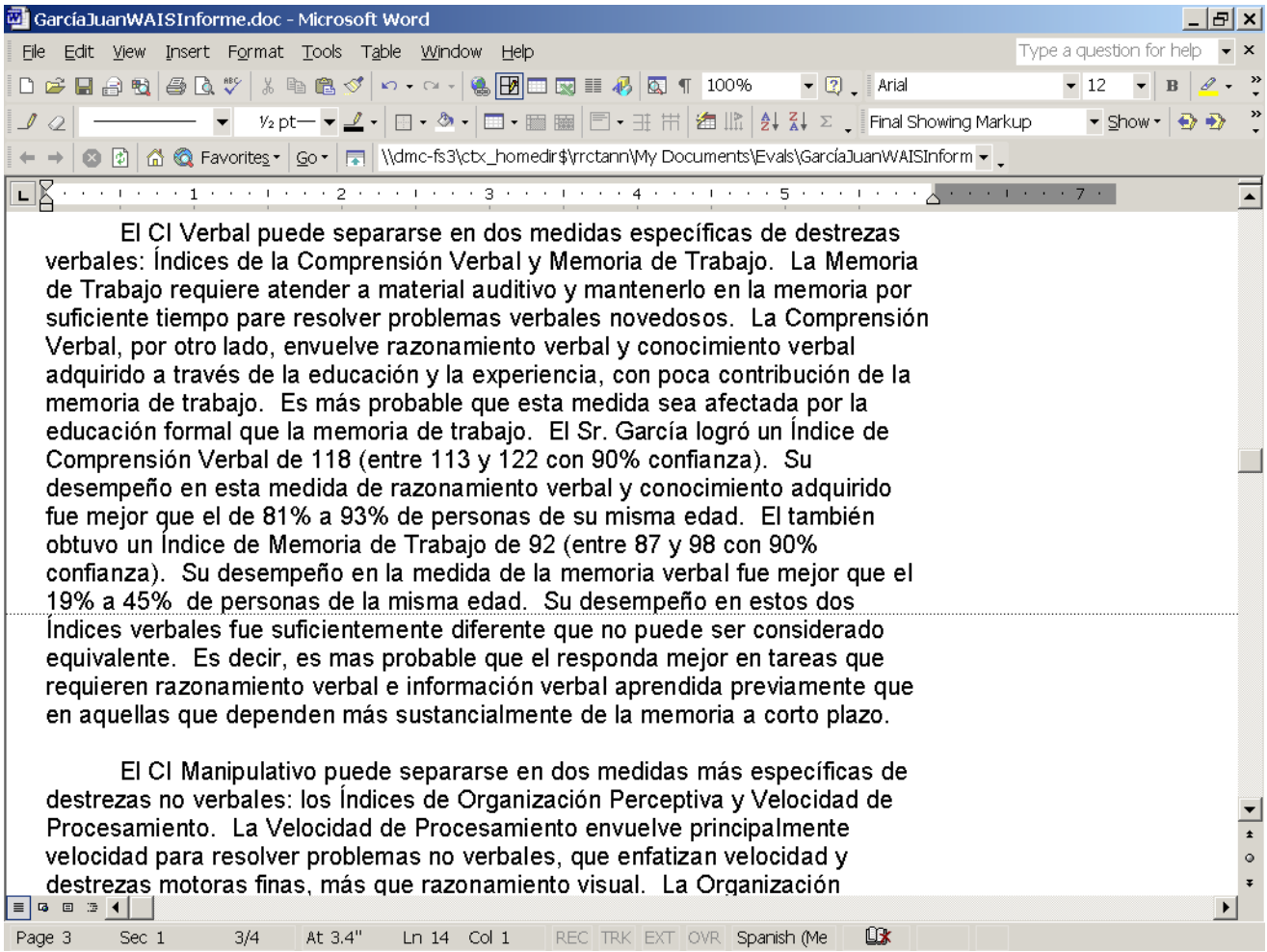

Figure 3. Additional sample output from the WAIS Assistant.

the standardization sample, the IQ does not adequately represent the diverse skills involved. In such cases, the Assistant indicates that the individual's diverse skills should not be represented with a single score.

The report then goes on to describe the patient's relative strengths and weaknesses by comparing individual subtest scores to the person's average for the relevant scale. That is, a score can be average or better compared with the standardization sample, but still be a relative weakness for the high performing individual (WAIS-III WMS-III technical manual, 2002). These comparisons include descriptions of the tasks required by the subtests, as well as descriptions of the skills that are believed to be involved in these tasks. Finally, the Assistant briefly summarizes the material presented in each of the previous steps.

Figure 3 shows the second page of Mr. García's report in Microsoft Word. The first paragraph describes the factors that go into his VIQ. It indicates that the two factors are not equivalent and, therefore, do not represent evenly developed skills. The following paragraph refers to the two indexes that comprise the PIQ, and concludes that the Perceptual and Processing Speed Indexes are equivalent.

Requirements

The Assistant is written in Microsoft Visual Basic 6 and requires approximately one (1) MB of drive space. The program has been tested only with Windows 2000 and XP, but may work with other versions of Windows.

Interested psychologists may request the Mexican WAIS Assistant by e-mail. They should state whether they hold an earned degree in psychology

and if they are licensed at the independent practice level in the area where they plan to use the program. They must indicate if they have been trained to administer and interpret the WAIS-III and if they are competent in the use of the test. They must further state that they will use the Assistant only for individuals who have been administered the standard WAIS-III, and with the U.S. norms. They must agree that all drafts generated by the program will be rewritten by them, or by those who work under their supervision, to include additional information about the patient. They must also agree that they will not use the Assistant to make interpretations of data from other providers' patients whom they have not seen. Deviations from these rules will only be allowed for research projects approved by the psychologist's Human Investigation Committee. The program may be copied for the personal use of the psychologist or by those that work under the psychologist's supervision, but it may not be copied for distribution to others. The program may not be modified nor incorporated in other programs, either in part or completely.

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