

# **Research and Development Plans for the WITI**

The Warne Intercultural Test of Intelligence (WITI) is already a sophisticated psychological instrument. However, it needs research and refinement before it is ready to be published. This document describes the planned research for the WITI and how PAR can help make the instrument publishable.

## **Research Needed for Publication**

### **American English-speaking Norm Sample**

The most important research project for the WITI is to collect data from a norm sample. A sample of 50 to 200 English-speaking American children per year (total  $n = 450$  to 1,800) should take every item on the WITI. This sample should be representative of the estimated 28.86 million American children between the ages of 3 and 11 who only speak English.

The data from this sample will be used to refine item order, item characteristics, the scoring system, and stop and start rules. This norm sample will be used to calculate norm-referenced scores for English speaking examinees in the United States. Additionally, other validity data should be collected from this sample (e.g., scores on other intelligence tests, school grades). PAR's resources would be essential for collecting data from a representative sample and establishing the WITI as a viable test for English speakers.

The data can also be used to screen for item bias across sex and racial groups and gather other information that will be necessary for a test manual (e.g., subtest intercorrelations, reliability values). Ideally, there will be subsamples that provide data on test-retest reliability, convergent validity (by taking another intelligence test), and external validity (via school grades, selection for school gifted programs) evidence.

### **American Spanish-speaking Norm Sample and Test of Measurement Invariance**

Once the WITI has met professional standards for psychological tests for English-speaking American examinees, the next priority will be to conduct a test of measurement. This is necessary to show that the WITI functions the same way across cultures. An ideal target culture for this study will be the estimated 5.89 million Spanish-speaking American children who are between the ages of 3 and 11. Data will be collected from this group invariance to ascertain whether there is a sufficient level of measurement invariance between groups for cross-cultural comparisons of scores to be justified. If measurement invariance is shown to hold, then it will build confidence that the WITI can be given to children from a wider variety of cultures. Additionally, if this sample is representative of Spanish-speaking children in the United States (which would require PAR resources), then it can serve as an additional norm group.

### **Other Planned Research**

#### **International Research**

After the WITI has been established as a strong test with representative norms in the United States, it will be ready to translate and use for research worldwide. I already have had colleagues from Sudan, Vietnam, and Turkey express interest in using the WITI in their countries and gathering norm data. I also have contacts in Paraguay, Singapore, and India that could also gather data from their countries for the WITI.

Researchers in cross-cultural psychology have also expressed interest in the WITI. I anticipate that the test would be useful for research into the Flynn effect and the impact of Western-style education on individuals' problem solving.