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**Legal definitions of intellectual
disability:
do they work?**

Simon Whitaker

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Three core criteria

- Significant impairment of intellectual functioning;
- Significant impairment of adaptive/social functioning;
- Age of onset before adulthood.

What do we mean by significant impairment in intellectual functioning?

American Association of Intellectual and Developmental Disabilities (2010)

“Intellectual functioning: an IQ score that is approximately two standard deviations below the mean, considering the standard error of measurement for the specific assessment instrument used and the instrument’s strengths and limitation.” (Page 27).

American Association of Psychiatry (2013;DMS-5)

“Individuals with intellectual disability have scores of approximately two standard deviations or more below the population mean, including a margin of measurement error (generally +5 points). On tests with standard deviations of 15 and a mean of 100, this involves scores of 65-75 (70 ± 5). Clinical training and judgment are required to interpret test results and assess intellectual performance.” (Page 37).

The World Health Authority (2010; ICD-10)

Specifies different ranges of IQ figures for the different severities of ID: mild, moderate, severe and profound. For example, for mild it states:

“Approximate IQ range of 50 to 69 (in adults, mental age from 9 to under 12 years)”. (Chapter 5: 2010 on line version).

The tests are considered to be accurate to within 5 points of the measured IQ 95% of the time.

BUT THEY ARE NOT!

A meta-analysis

Whitaker (2008) A meta-analysis of the literature on the test re-test reliability of intelligence tests when applied to people with low intellectual ability ($IQ < 80$).

The mean correlation between first and second test was 0.82.

This corresponds to a 95% confidence interval of 12.47 points.

It was also found that 14% of IQs change by 10 points or more.

Which is close to what a 95% confidence interval of 12.5 would predict.

Lack of agreement between tests

We (Gordon et al 2010) compared the WISC-IV and the WAIS-III in an empirical study on seventeen 16-year-olds in special education.

Results

	WISC-IV	WAIS-III	dif	r
FS IQ	53.00	64.82	11.82	.93

Other errors

- Flynn effect
- Floor effect
- Practice effect
- Malingering

Psychologist for defense

- WISC rather than WAIS
- Suboptimal conditions.
- Empties negative consequences of getting high IQ.
- Don't repeat a test to avoid practice effects.
- Correct for Flynn and Floor effects.

Psychologist for prosecution

- WAIS rather than WISC
- Insist on optimal conditions
- Emprise to the defendant that he/she needs to show how smart they are.
- Repeat tests to get a practice effect.
- Don't correct for Flynn or floor effects.

It is difficult to exactly quantify how much difference this could make but:

- WISC vs. WAIS 10 points
 - Conditions 10 points
 - Malingering 4 points
 - Practice 2 points
 - Flynn and Floor 4 points
- Total 30 points

Conclusion

As long as definitions specify an IQ figure with an explicitly or implied confidence interval of 5 points errors will be made in diagnosis and courts will be unaware of individual's true intellectual ability.