



Reliability of a NCLB Design

Part 1: What's a NCLB Design?

- Outcome criterion is percent passing
 - School as a whole and every subgroup within the school must pass either a status bar or an improvement standard on reading and math to make AYP
 - A school that fails to make AYP two consecutive years faces consequences
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Status Bar

- 20th percentile school
 - Separate bars for reading and math
 - Separate bars might be set for each grade span
 - Status bar for subgroups might be 20th percentile of subgroups
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Improvement Standard

- 10 percent reduction in percentage of students failing from previous year
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Part 2: What's Reliability?

- Probability of a consistent or correct decisions (not a reliability coefficient)
 - Can be highly volatile
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Kane and Staiger

- Three sources of variation
 - Sampling variation
 - Other non-persistent effects
 - Persistent effects
 - Percent of non-persistent effects for average-sized school in NC
 - Status – 14
 - Longitudinal gain – 49
 - Non-cohort gain – 73
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Linn

- Not only measurement error, but sampling error as well
 - Sampling error is a much larger contributor to volatility of school-building scores than measurement error
 - Difference scores less reliable than the scores used to compute the differences
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Critical Statistics

- Variance of students S^2_X
 - Variance of school means $S^2_{\bar{X}}$
 - Variance of students within schools $S^2_{X|S}$
 - Kane and Staiger: Ratio of $S^2_{X|S} / S^2_X$
NC ratios around .89
Coleman reports .84 - .88
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