

Law of Small Numbers

Law of Small Number *is the tendency to treat small samples as if they were large ones*, in other words, to have exaggerated confidence in small samples, especially if the results are fascinating or confirm your bias. Thus, we often wrongly view reality as much simpler and more coherent than it is. An intriguing finding often leads to overgeneralization of the results in spite of a small sample. Beware of generalizing from small samples.

Kahneman (2011) recounts the story of the Gates Foundation investing 1.7 billion on research of successful schools. Studies examined the most successful schools to determine what distinguished them. A study of 1662 schools in Pa. uncovered that 6 of the 50 top schools were small and was an overrepresentation of by a factor of 4. Such studies led to the conclusion that the most successful schools were small. In subsequent analyses of the same sample, however, the worst schools were also disproportionately small. **The truth is that small schools on average are not better but simply more variable** (Kahneman, 2011; Wainer and Zwerling, 2006).