
Inference About Two Means: Paired Samples

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Independent vs Dependent Sampling

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Situations where this technique can be applied include:

- Before and after treatment measures on the same individual
- Same store sales in business
- Twin studies
- Any study where each member of sample 1 is carefully matched to a counterpart in sample 2

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The reason is that with independent samples, a lot of variation may be introduced because of differences between individuals that have nothing to do with the experiment. In the paired design, these tend to cancel out when we subtract the "before" and "after" measures.

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As a result, the sample mean should usually be close to zero.