

## 11.7: On the Relationship Between ANOVA and the Student t Test

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There's one last thing before moving on to non-parametric alternatives to ANOVA. It's something that a lot of students ask about, and many people find the answer surprising, but it's worth knowing about: an ANOVA with two groups is identical to the Student t-test. No, really. It's not just that they are similar, but they are actually equivalent in every meaningful way.

You are encouraged to try this yourself! If you do conduct an independent samples t-test and a BG ANOVA on the same data, you will get different calculated answers but statistical software will show you that the actual p-value is identical. What's more, if you square the calculated t-score, you should get pretty close to the calculated F-value! Math is so weird.

Dr. MO has been tempted to turn to ANOVAs because it takes into account within-group variation, but it turns out, mathematically, it doesn't matter! When you only have two groups, use whichever analysis you prefer!

### Contributors and Attributions

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