



How to study better?

The effect of **study drug** and **music** on college aged youths' reading comprehension performance

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NATHANIEL BARRETT, NATEBARRETT98@GMAIL.COM

ANQIAN LI, LEEANQIAN@GMAIL.COM

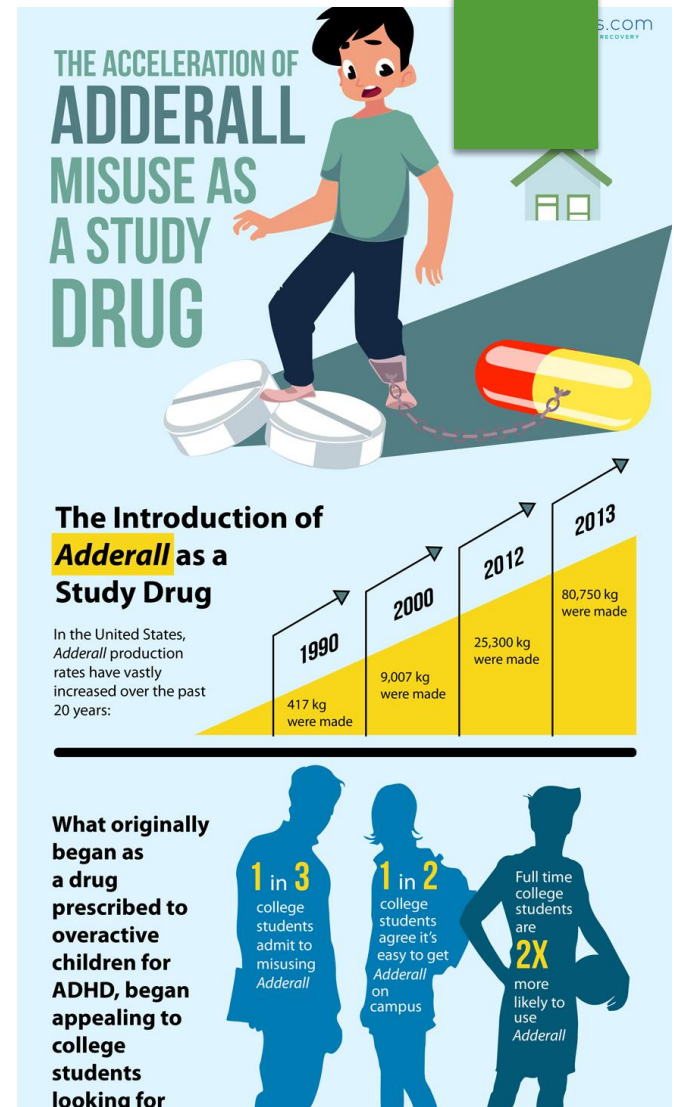
YUE LIU, IRISLIU203@GMAIL.COM

Motivation and design

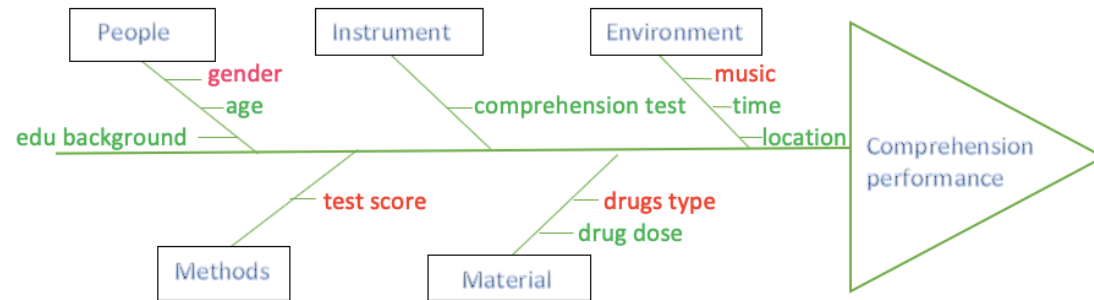
As college students, we are facing a great pressure of excelling in academic achievements. Typically, some students choose music to help concentrating on studying, while others seek external help of drugs.

- ▶ Basic factorial design with two factors and one block

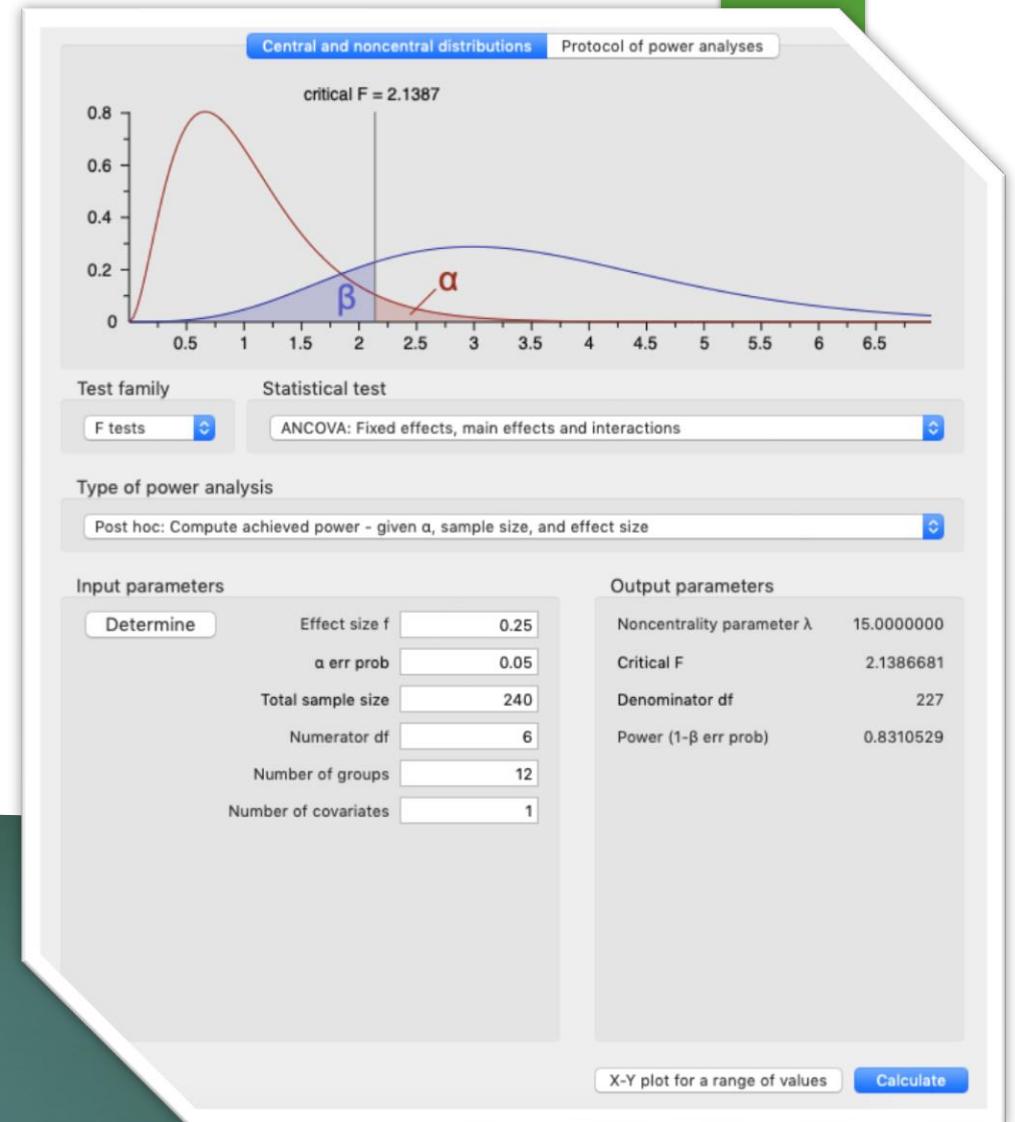
- ▶ BF allows us to study the effect of each factor on the response variable, as well as their potential interaction



Addictions LLC. "Study Drugs & the Acceleration of Adderall Addiction." Addictions, 2017, www.addictions.com/blog/study-drugs-the-acceleration-of-adderall-addiction/.

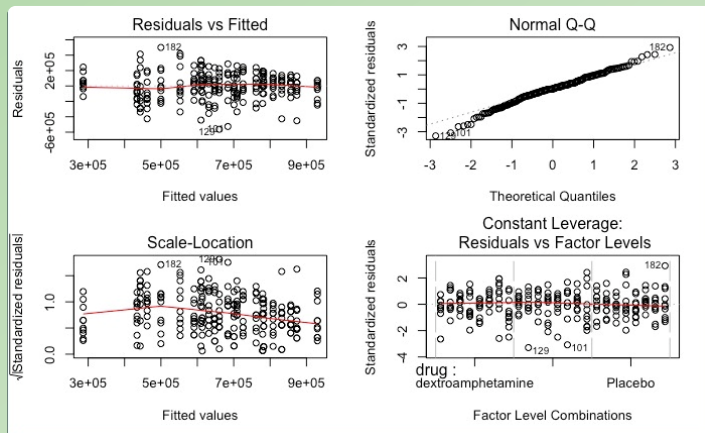
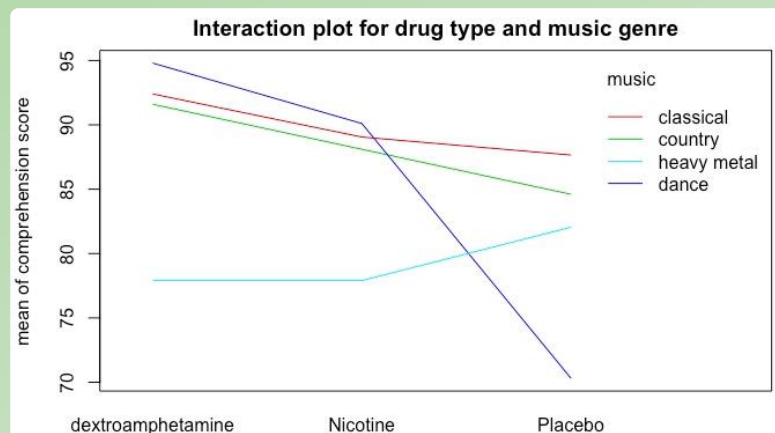
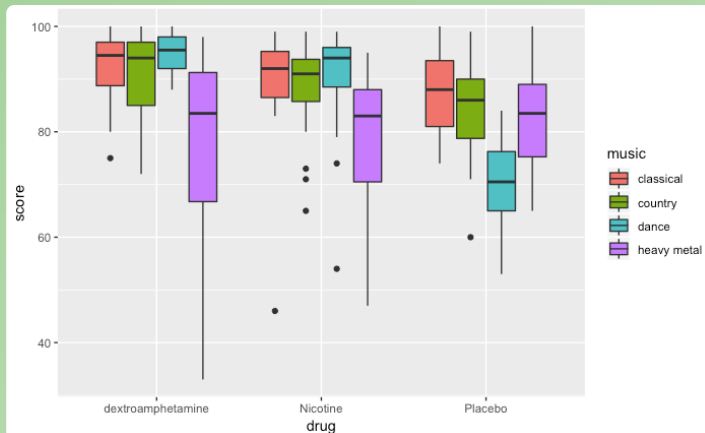


- Response: Comprehension Score
- Control: Age, testing time
- Uncontrollable: Education background, location
- Block: Gender
- Treatments:
 - Music (classical, country, dance, heavy metal)
 - Drug (dextroamphetamine, nicotine, placebo)



Fish bone diagram

Sample size calculation



ANOVA table with transformation on score

| | Df | Sum Sq | Mean Sq | F value | Pr(>F) | |
|------------|-----|-----------|-----------|---------|----------|-----|
| drug | 2 | 1.354e+12 | 6.772e+11 | 21.910 | 1.99e-09 | *** |
| music | 3 | 1.340e+12 | 4.467e+11 | 14.453 | 1.19e-08 | *** |
| gender | 1 | 1.313e+12 | 1.313e+12 | 42.481 | 4.56e-10 | *** |
| drug:music | 6 | 1.807e+12 | 3.012e+11 | 9.747 | 1.49e-09 | *** |
| Residuals | 227 | 7.016e+12 | 3.091e+10 | | | |

Main results

Conclusions so far & What to improve in the future

Both music types and drug types affect study performance. While the combination of dance music after taking dextroamphetamine has the best effect.

Our research indicates a potential relationship between reading comprehension performance and gender /different time in a day.