



· DataFest 2022 · Nightingales

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Objective

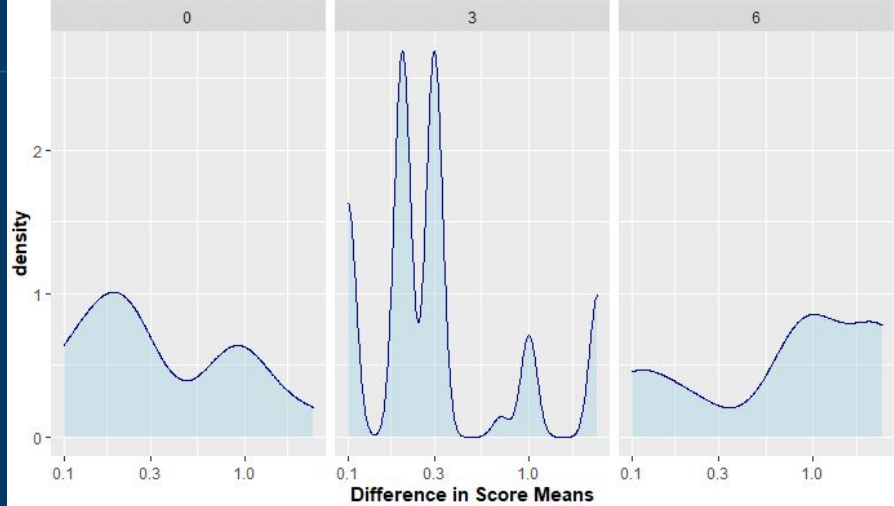
How does someone's skill level over time affect their resistance to drugs?



Methodology

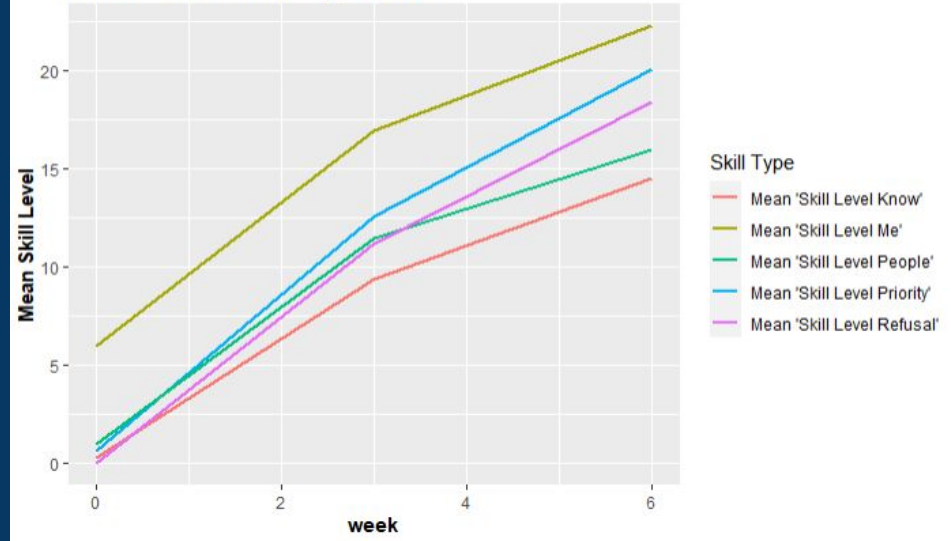
1. Data Transformation
2. Data Visualization
3. Multiple Linear Regression

Mean Difference in S5 Scores by Week



Mean S5 Score: Represents how well a student can resist drugs. A lower score means that the student is better at resisting drugs.

Mean Skill Levels by Week



Skill Levels:

- “Know” skill level
- “Me” skill level
- “People” skill level
- “Priority” skill level
- “Refusal” skill level

Linear Regression Model:

```
Call:
lm(formula = diff_mean ~ skill_level_know + skill_level_priority +
    skill_level_people + skill_level_refusal + skill_level_me,
    data = data2)
```

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	0.359303	0.076194	4.716	3.17e-06	***
skill_level_know	-0.076829	0.010407	-7.383	6.97e-13	***
skill_level_priority	0.107919	0.007489	14.411	< 2e-16	***
skill_level_people	-0.091167	0.012206	-7.469	3.88e-13	***
skill_level_refusal	0.077632	0.011657	6.660	7.56e-11	***
skill_level_me	-0.026655	0.009751	-2.734	0.0065	**

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

These skill levels are significant in predicting the difference in mean S5 survey scores.

Conclusion:

- Can conclude that the more skill levels a player obtains from the Challenge Stack, they are more likely to demonstrate a change in drug resistance.
- We recommend that the researchers place more focus on players obtaining higher skill levels, since these levels are important for players' responses to real-life decisions about drugs.