Proper Hydration is a Critical Factor for a Healthy Lifestyle Daily Water Intake

Topic of Study: What affects the amount of water intake I consume everyday?
General studies recommend that the daily intake should be 3 liters a day. Does workout play a factor in my consumption of water?

Hypotheses

Hypothesis 1: Null Hypothesis: Mean intake = 3000 mL/day
Alternative Hypothesis: Mean intake ≠ 3000 mL/day
If p-value < 0.05 we will reject the Null Hypothesis
If p-value >0.05 we will fail to reject the Null Hypothesis.

Hypothesis 2: Null Hypothesis : Mean intake on workout days = mean intake on non-workout days
Alternative Hypothesis : Mean intake on workout days ≠ mean intake on non-workout days
If p-value < 0.05 we will reject the Null Hypothesis
If p-value >0.05 we will fail to reject the Null Hypothesis.

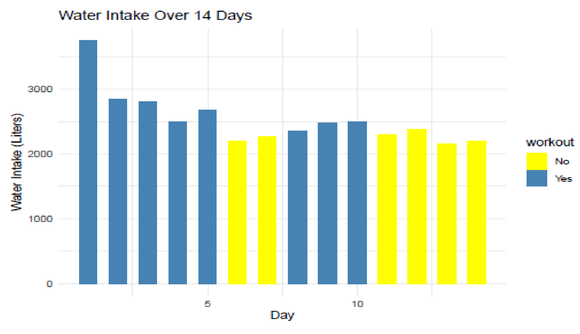
Data CollectionVariables

Dependent Variable:Daily Water Intake (mL)

Independent Variable: Workout statusYes /No

Other Column:Day(identifier)

Day	water_inta	workout
1	3750	Yes
2	2850	Yes
3	2800	Yes
4	2500	Yes
5	2675	Yes
6	2200	No
7	2275	No
8	2350	Yes
9	2475	Yes
10	2500	Yes
11	2300	No
12	2375	No
13	2150	No
14	2200	No



Significance level•0.05

•**One-Sample t-test**•Mean intake = 2528.57 mL/day
•p-value = 7.083e-12. we reject H_0.

•Conclusion: Intake is significantly lower than 3 liters/day.
•**Two-sample t-test:**•Mean intake workout days = 2737.5
•Mean intake non-workout days = 2250
•p-value = 0.01699, we reject H_0.

•Conclusion: Intake is significantly higher on workout days

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One Sample t-test
data: Daily_water_intake$water_intake
t = 22.836, df = 13, p-value = 7.083e-12
alternative hypothesis: true mean is not
equal to 3
95 percent confidence interval:
2289.646 2767.496
sample estimates:
mean of x
2528.571
```

```
Two Sample t-test
data: water_intake by workout
t = -3.0396, df = 7.6326, p-value = 0.01699
alternative hypothesis: true difference in
means between group No and group Yes is not
equal to 0
95 percent confidence interval:
-860.4695 -114.5305
sample estimates:
mean in group No mean in group Yes
2250.0 2737.5
```

Slide 6: Conclusion & Implications

Key findings: Average intake < recommended 3 liters/day
Workout status influences intake.

Implications: Students may need to increase hydration.
Workout days show different hydration intake.

Future directions: Larger sample size
Explore other factors (diet, weather, exercise intensity)