

Analysis 1 using Set Values (conservative):

Step 1: Greatest difference in baseline = set value

- This value represents the *largest* change in food water intake based on every iteration of days in baseline period (i.e. days 3-4, days 3-5, days 3-6, etc.)
- *Set value* = 108.7384

Step 2: Compare set value to change food water intake (restriction intake – baseline intake = FWIC)

- Food water intake change (FWIC) represents the mean *baseline* food water intake subtracted from the mean *restriction* food water intake
- FWIC = 67. 76424

Step 3: One sample t-test comparing: Distribution of FWIC <, >, or = to 108.7384?

- Two-tailed: "Is the true mean **equal** to 108.7384?"
 - o *p-value* = 0.039
 - o "No"
- One-sided: "Is the true mean (67. 76424) is **less** than 108.7384?"
 - o *p-value* = 0.0195
 - o "Yes"
- One-sided: "Is the true mean (67. 76424) is **greater** than 108.7384?"
 - o *p-value* = 0.9805
 - o "No"

Conclusion: This conservative analysis shows that the greatest *difference* in baseline intake of food water for each individual for each day is **less** than and **not equal to** the mean food water intake difference for each week (restriction – baseline).

Analysis 2 using Set Values (liberal):

Step 1: Baseline mean *sequential* difference

- this value represents the mean sequential difference between sequential days in baseline period (i.e. days 3-4, 4-5, etc.)
- *Set value* = 27.14374

Step 2: Set value compared to FWIC from analysis 1

- This value is the same as step 2 in analysis 1 where,
 - *Restriction intake* – *baseline intake* = FWIC
 - FWIC = 67.76424

Step 3: One sample t-test comparing: Distribution of FWIC <, >, or = to 27.14374?

- Two-tailed: "Is the true mean (67.76424) **equal** to 27.14374?"
 - *p-value* = 0.04069
 - "No"
- One-sided: "Is the true mean (67.76424) is **less** than 27.14374?"
 - *p-value* = 0.9797
 - "No"
- One-sided: "Is the true mean (67.76424) is **greater** than 27.14374?"
 - *p-value* = 0.02034
 - "Yes"

Conclusion: This lenient analysis shows that the mean day-to-day difference in baseline period is **greater** than and **not equal to** the mean food water intake difference for each week (restriction – baseline).

Analysis 1 using Distributions (conservative):

Steps 1 & 2: Identical from previous analysis, however, instead of comparing the FWIC to a set value, the comparison is between the distribution of *FWIC* to the distribution of *greatest mean intake change*.

Step 3: T-test between FWIC and greatest mean intake change:

- "Is there a significant relationship between these two groups?"
- p-value = 0.4606
- "No"

Conclusion: There is no statistically significant difference between the mean change from restriction & baseline and the mean greatest difference in baseline. So, the greatest amount of variation in day-to-day drinking habits during the baseline period is not any different than average intake difference between the restriction & baseline periods.

Analysis 2 using Distributions (liberal):

Steps 1 & 2: Identical from previous analysis, however, instead of comparing the FWIC to a set value, the comparison is between the distribution of *FWIC* to the distribution of *mean sequential intake change*.

Step 3: T-test between FWIC and mean sequential intake change:

- "Is there a significant relationship between these two groups?"
- p-value = 0.06011
- "No"

Conclusion: There is no statistically significant difference between the mean change from restriction & baseline and the mean sequential change from baseline. So, the amount of variation between sequential days (i.e. Monday – Tuesday) is no different than average intake difference between the restriction & baseline periods.

Note: There is no statistical significance between mean of *baseline sequential difference* and mean of *greatest baseline difference* ($p = 0.1227$)

Changes in Food Water Intake

