

**SUPPLEMENTARY INFORMATION**

An analysis of variance design was used in all cases. 3 X 2 X 2 with the last as a repeated measures (Capsule – Placebo / Electrolyte X Drink – No drink / Plain water / Coloured water) X Time – Baseline / End study).

**Table S1. The influence of interventions on Agreeableness**

| Mood subscale | Effect/Interaction     | ANOVA                          |
|---------------|------------------------|--------------------------------|
| Agreeableness | Time                   | $F(1,154) = 3.042, p = 0.083$  |
|               | Time X Capsule         | $F(1,154) = 1.928, p = 0.167$  |
|               | Time X Drink           | $F(2,154), = 0.417, p = 0.660$ |
|               | Time X Capsule X Drink | $F(2,154) = 4.510, p = 0.012$  |
|               | Capsule                | $F(1,154) = 1.928, p = 0.167$  |
|               | Drink                  | $F(1,154) = 3.599, p = 0.030$  |
|               | Capsule X Drink        | $F(1,154) = 0.235, p = 0.791$  |

**Table S2. The influence of interventions on Composure**

| Mood subscale | Effect/Interaction     | ANOVA                         |
|---------------|------------------------|-------------------------------|
| Composure     | Time                   | $F(1,157) = 1.715, p = 0.192$ |
|               | Time X Capsule         | $F(1,157) = 6.946, p = 0.009$ |
|               | Time X Drink           | $F(2,157) = 1.503, p = 0.226$ |
|               | Time X Capsule X Drink | $F(2,157) = 3.821, p = 0.024$ |
|               | Capsule                | $F(1,157) = 0.010, p = 0.910$ |
|               | Drink                  | $F(2,157) = 3.074, p = 0.049$ |
|               | Capsule X Drink        | $F(2,157) = 3.752, p = 0.026$ |

**Table S3. The influence of interventions on Clearheadedness**

| <b>Mood subscale</b> | <b>Effect/Interaction</b> | <b>ANOVA</b>                  |
|----------------------|---------------------------|-------------------------------|
| Clearheadedness      | Time                      | $F(1,155) = 0.865, p = 0.354$ |
|                      | Time X Capsule            | $F(1,155) = 0.193, p = 0.661$ |
|                      | Time X Drink              | $F(2,155) = 3.440, p = 0.035$ |
|                      | Time X Capsule X Drink    | $F(2,155) = 0.498, p = 0.609$ |
|                      | Capsule                   | $F(1,155) = 0.467, p = 0.496$ |
|                      | Drink                     | $F(2,155) = 0.322, p = 0.718$ |
|                      | Capsule X Drink           | $F(2,155) = 1.333, p = 0.267$ |

**Table S4. The influence of interventions on Elation**

| Mood subscale  | Effect/Interaction     | ANOVA                          |
|----------------|------------------------|--------------------------------|
| <b>Elation</b> | Time                   | $F(1,158) = 11.160, p < 0.001$ |
|                | Time X Capsule         | $F(1,158) = 3.738, p = 0.055$  |
|                | Time X Drink           | $F(2,158) = 0.135, p = 0.873$  |
|                | Time X Capsule X Drink | $F(2,158) = 1.410, p = 0.247$  |
|                | Capsule                | $F(1,158) = 0.069, p = 0.793$  |
|                | Drink                  | $F(2,158) = 0.568, p = 0.558$  |
|                | Capsule X Drink        | $F(2,158) = 2.243, p = 0.110$  |

**Table S5. The influence of interventions on Confidence**

| Mood subscale | Effect/Interaction     | ANOVA                         |
|---------------|------------------------|-------------------------------|
| Confidence    | Time                   | $F(1,153) = 2.360, p = 0.127$ |
|               | Time X Capsule         | $F(1,153) = 0.462, p = 0.498$ |
|               | Time X Drink           | $F(2,153) = 1.010, p = 0.366$ |
|               | Time X Capsule X Drink | $F(2,153) = 0.701, p = 0.495$ |
|               | Capsule                | $F(1,153) = 0.600, p = 0.440$ |
|               | Drink                  | $F(2,153) = 4.681, p = 0.011$ |
|               | Capsule X Drink        | $F(2,153) = 1.314, p = 0.272$ |

**Table S.6 The influence of interventions on Energy**

| Mood subscale | Effect/Interaction     | ANOVA                           |
|---------------|------------------------|---------------------------------|
| Energy        | Time                   | $F(1,156) = 18.460, p < 0.001$  |
|               | Time X Capsule         | $F(1,156) = 0.002, p = 0.964$   |
|               | Time X Drink           | $F(1,156) = 0.703, p = 0.497$   |
|               | Time X Capsule X Drink | $F(1,156) = 0.228, p = 0.796$   |
|               | Capsule                | $F(1,156) = 1.417, p = 0.263$   |
|               | Drink                  | $F(1,156) = 2.545, p = 0.082,$  |
|               | Capsule X Drink        | $F(1,156) = 6.384, p = 0.002 .$ |

**Table S.7 THE EFFECT OF THE INTERVENTIONS UPON RESPONSE TIMES DURING THE ARROW FLANKERS TASK**

| Cognitive task     | Effect/Interaction     | ANOVA                           |
|--------------------|------------------------|---------------------------------|
| <b>Congruent</b>   | Time                   | $F(1, 141) = 10.764, p = 0.001$ |
|                    | Time X Drink           | $F(2,142) = 1.579, p = 0.223$   |
|                    | Time X Capsule         | $F(1,142) = 2.903, p = 0.089$   |
|                    | Time X Drink X Capsule | $F(2,142) = 0.007, p = 0.993$   |
|                    | Time                   | $F(2, 141) = 4.165, p = 0.017$  |
|                    | Capsule                | $F(2,142) = 2.618, p = 0.072$   |
|                    | Drink X Capsule        | $F(2,142) = 1.437, p = 0.241$   |
| <br>               |                        |                                 |
| Cognitive task     | Effect/Interaction     | ANOVA                           |
| <b>Incongruent</b> | Time                   | $F(1, 141) = 10.764, p = 0.001$ |
|                    | Time X Drink           | $F(2,141) = 0.339, p = 0.713$   |
|                    | Time X Capsule         | $F(1,141) = 2.293, p = 0.132$   |
|                    | Time X Drink X Capsule | $F(2,141) = 0.114, p = 0.132$   |
|                    | Drink                  | $F(2, 141) = 4.165, p = 0.017$  |
|                    | Capsule                | $F(1,141) = 1.106, p = 0.295,$  |
|                    | Drink X Capsule        | $F(2,141) = 0.071, p = 0.931$   |

| Cognitive task        | Effect/Interaction     | ANOVA                           |
|-----------------------|------------------------|---------------------------------|
| <b>Neutral Trials</b> | Time                   | $(F(1,141) = 13.877, p < .001)$ |
|                       | Time X Drink           | $(F(2,141) = 0.831, p = 0.438)$ |
|                       | Time X Capsule         | $F(1,141) = 6.26, p = 0.013$    |
|                       | Time X Drink X Capsule | $(F(2,141) = 0.074, p = 0.929)$ |
|                       | Drink                  | $(F(2,141) = 5.606, p = 0.005)$ |
|                       | Capsule                | $(F(1,141) = 1.576, p = 0.211)$ |
|                       | Drink X Capsule        | $(F(2,141) = 1.670, p = 0.192)$ |

**Table S8. THE EFFECT OF THE INTERVENTION UPON RESPONSE TIMES DURING THE SERIAL SEVENS TASK**

| Cognitive task       | Effect/Interaction     | ANOVA                         |
|----------------------|------------------------|-------------------------------|
| <b>Serial sevens</b> | Time                   | $F(1,154) = 43.030, p < .001$ |
|                      | Time X Drink           | $F(2,154) = 1.253, p = 0.289$ |
|                      | Time X Capsule         | $F(2,154) = 0.362, p = 0.548$ |
|                      | Time X Drink X Capsule | $F(2,154) = 4.303, p = 0.046$ |
|                      | Drink                  | $F(2,154) = 1.538, p = 0.218$ |
|                      | Capsule                | $F(1,154) = 0.025, p = 0.874$ |
|                      | Drink X Capsule        | $F(2,154) = 1.841, p = 0.162$ |

**Table S.9 THE EFFECT OF THE INTERVENTION UPON EPISODIC MEMORY**

| <b>Mood subscale</b> | <b>Effect/Interaction</b>                 | <b>ANOVA</b>                 |
|----------------------|---|------------------------------|
|                      | Time                                      | $F(1,165)=8.915, p = 0.003$  |
|                      | Time X Drink                              | $F(2,165) =2.262, p=0 .107$  |
|                      | Time X Capsule                            | $F(1,165) = 0.208, p= 0.649$ |
|                      | Time X Capsule X Drink                    | $F(2,165)= 0.877, p =0.417$  |
|                      | Memory type                               | $F(1,165) = 90.995, p .001$  |
|                      | Memory type X Drink                       | $F(2,165) = 0.617, p=0.541$  |
|                      | Memory type X Capsule                     | $F(1,165) = 1.747, p=0.188$  |
|                      | Memory type X Capsule X Drink             | $F(2,165)=0.876, p =0.418$   |
|                      | Time X Memory type                        | $F(1,165)=12.082, p =.001$   |
|                      | Time X Memory type X Drink type           | $F(2,165) = 1.014, p=.365$   |
|                      | Time X Memory type X Capsule              | $F(1,165) = 0.647, p =.413$  |
|                      | Time X Memory type X Drink type X Capsule | $F(2,165) = 0.046, p =.955$  |
|                      | Capsule                                   | $F(1,165) = 0.454, p = .636$ |
|                      | Drink                                     | $F(1,165) =0 .009, p = .923$ |
|                      | Capsule X Drink                           | $F(1,165) = 0.800, p = .451$ |

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Note. Type of memory is whether recall was immediately or after 20 minutes

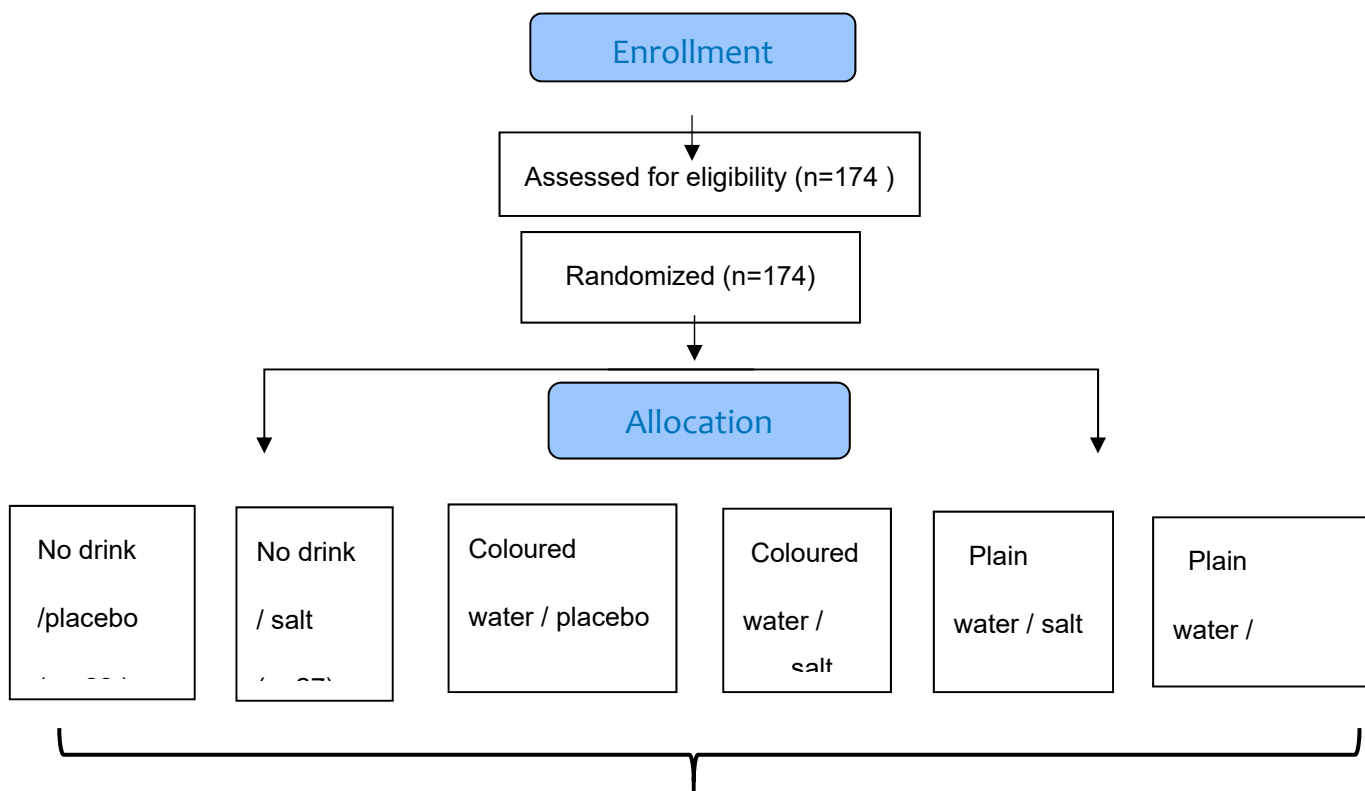
**Table S.10 THE EFFECT OF THE INTERVENTION UPON REACTION TIMES**

| <b>Lamp</b> | <b>Effect/Interaction</b> | <b>ANOVA</b>                       |
|-------------|---------------------------|------------------------------------|
| 1           | Time                      | ( $F(1, 160) = 0.542, p = 0.463$ ) |
| 1           | Time X Drink              | ( $F(2, 160) = 0.118, p = 0.889$ ) |
| 1           | Time X Capsule            | ( $F(1, 160) = 1.197, p = 0.275$ ) |
| 1           | Time X Capsule X Drink    | ( $F(2, 160) = 0.098, p = 0.907$ ) |
| 2           | Time                      | ( $F(1, 160) = 1.393, p = 0.240$ ) |
| 2           | Time X Drink              | ( $F(2, 160) = 0.601, p = 0.549$ ) |
| 2           | Time X Capsule            | ( $F(1, 160) = 0.724, p = 0.384$ ) |
| 2           | Time X Capsule X Drink    | ( $F(2, 160) = 0.328, p = 0.721$ ) |
| 4           | Time                      | ( $F(1, 160) = 0.498, p = 0.482$ ) |
| 4           | Time X Drink              | ( $F(2, 160) = 1.104, p = 0.334$ ) |
| 4           | Time X Capsule            | ( $F(1, 160) = 4.097, p = 0.045$ ) |
| 4           | Time X Capsule X Drink    | ( $F(2, 160) = 0.409, p = 0.605$ ) |
| 8           | Time                      | ( $F(1, 153) = 0.013, p = 0.653$ ) |
| 8           | Time X Drink              | ( $F(2, 153) = 1.203, p = 0.398$ ) |
| 8           | Time X Capsule            | ( $F(1, 153) = 0.483, p = 0.962$ ) |
| 8           | Time X Capsule X Drink    | ( $F(2, 153) = 3.938, p = 0.005$ ) |



# CONSORT

TRANSPARENT REPORTING of TRIALS



Discontinued intervention (n=0)

## Analysis

### Outliers

|                 |     |     |     |     |     |               |     |
|-----------------|-----|-----|-----|-----|-----|---------------|-----|
| Agreeable n=0   | n=4 | n=2 | n=0 | n=1 | n=2 |               |     |
| Composed n=1    | n=0 | n=1 | n=1 | n=1 | n=3 |               |     |
| Clearheaded n=2 | n=0 | n=0 | n=3 | n=1 | n=2 |               |     |
| Energetic n=0   | n=1 | n=2 | n=2 | n=0 | n=2 |               |     |
| Elated n=1      | n=0 | n=1 | n=1 | n=2 | n=3 | Confident n=3 | n=2 |
| n=0             | n=2 | n=1 | n=2 |     |     |               |     |