

Conclusion

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Summary of Results

From comparisons of red bull with water during the skills test, it is possible to say that subjects were significantly ($p=0.0494$) more successful at landing balls in the buckets when drinking water, than when drinking red bull.

Similarly, when drinking water, subjects performed significantly ($p=0.028$) better during the skills tests than when drinking lucozade.



Water: 1.141 ± 0.102 (95% CI)
Red Bull: 1.000 ± 0.102 (95% CI)

Water: 1.160 ± 0.104 (95% CI)
Lucozade: 1.000 ± 0.102 (95% CI)

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Previously a significant difference was defined as $P < 0.05$. Inverting this you can equally say that $p > 0.95$ indicates a significant positive relationship between two variables.

For heart rate score 1, water was significantly related to Lucozade ($p=0.952$). This implies they have the same effect on exercise performance.

Water: 1.000 ± 0.126
Lucozade: 1.006 ± 0.157

Reaction tests

Water vs Dioralyte

When subjects were compared as a group dioralyte produced significantly faster reaction times than water ($p=0.000126$). On closer examination two subjects had significantly decreased times ($p=1.11 \times 10^{-7}$, $p=5.93 \times 10^{-7}$), two were borderline ($p=0.056$, $p=0.066$), and two were not significant. This is detailed in the [stats section](#).

Water vs Lucozade

No significant differences could be found.

Water vs Bull

Red bull significantly decreased reaction times in two of our subjects ($p=0.0294$, $p=1.41 \times 10^{-5}$), and significantly increased reaction times in one of our subjects ($p=1.2 \times 10^{-7}$).

Other non statistically significant trends are documented in the discussion section.

Our conclusions

The Lucozade sport website claims their drink increases exercise performance by 33%. From the results of our study it appears lucozade sport offers no benefit over flavoured water for exercise performance. hand-eye coordination as measured by our skills test was increased by flavoured water relative to both red bull and lucozade.

It appears dioralyte decreases reaction time relative to the other drinks. Despite this it is not a feasible option for a sports drink due to poor palatability. All the subjects in our study reported nausea while performing exercise trials using this drink. Red bull seems to exert an effect dependant on individual sensitivity. No effects observed were of the magnitude claimed by red bull or lucozade. Despite possible inconsistencies due to a non-linear training effect no justification for these claims can be eluded from our results. It appears flavoured water offers by far the most economical option for maintaining hydration and performance in various areas of sport.