



Self Reported Alcohol Consumption and its Effect on Fatigue and Hydration



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Context

Alcohol effects every system of the body preventing it from working properly.¹ It is known that athletes are consuming ore alcohol than the regular student population and in greater quantities. Consumption will negatively effect factors of performance.²

Purpose

The purpose of this study was to determine if a relationship existed between self reported alcohol consumption and scores on the Alcohol Use Disorders Identification Test(AUDIT) and the Visual Analog Scale for fatigue(VAS-F).

Methods

Design

Observational correlation design was used to determine if a relationship existed between dependent measures

Setting

Division I Midwestern Institution

Participants

91 Division I athletes from Indiana State University

40-male/ 51-female

Interventions

We measured hydration status using a clinical refractometer, self reported alcohol consumption using the alcohol use disorders identification test (AUDIT) questionnaire, and fatigue using the visual analog scale for fatigue (VAS-F). During the initial team meeting we measured baseline fatigue and acquired informed consent. Athletic Training Services performed baseline hydration status testing during pre-participation physicals (PPEs). Each team participated on an "off day" post competition and again 3 days following. During the follow-up data collection sessions, hydration status, VAS-F, and AUDIT were assessed. Main Outcome Measures

Dependent Measures: AUDIT scores, VAS-F scores

Independent Measures: None, athletes were not asked to consume alcohol, we merely observed how much they did or did not consume.

Statistical Analysis

We performed a spearman rho correlational to determine if a relationship between dependent measures existed. A repeated measures ANOVA was used to determine changes to hydration over time. A once way ANOVA was used to determine differences on the AUDIT by sport.

Results

We found no significant relationship between our dependent measures. We did identify significant differences in hydration status over time illustrated by **figure 1**. We also determine a significant difference in AUDIT scores illustrated by **figure 2**.

Figure1. Mean Z score of hydration.

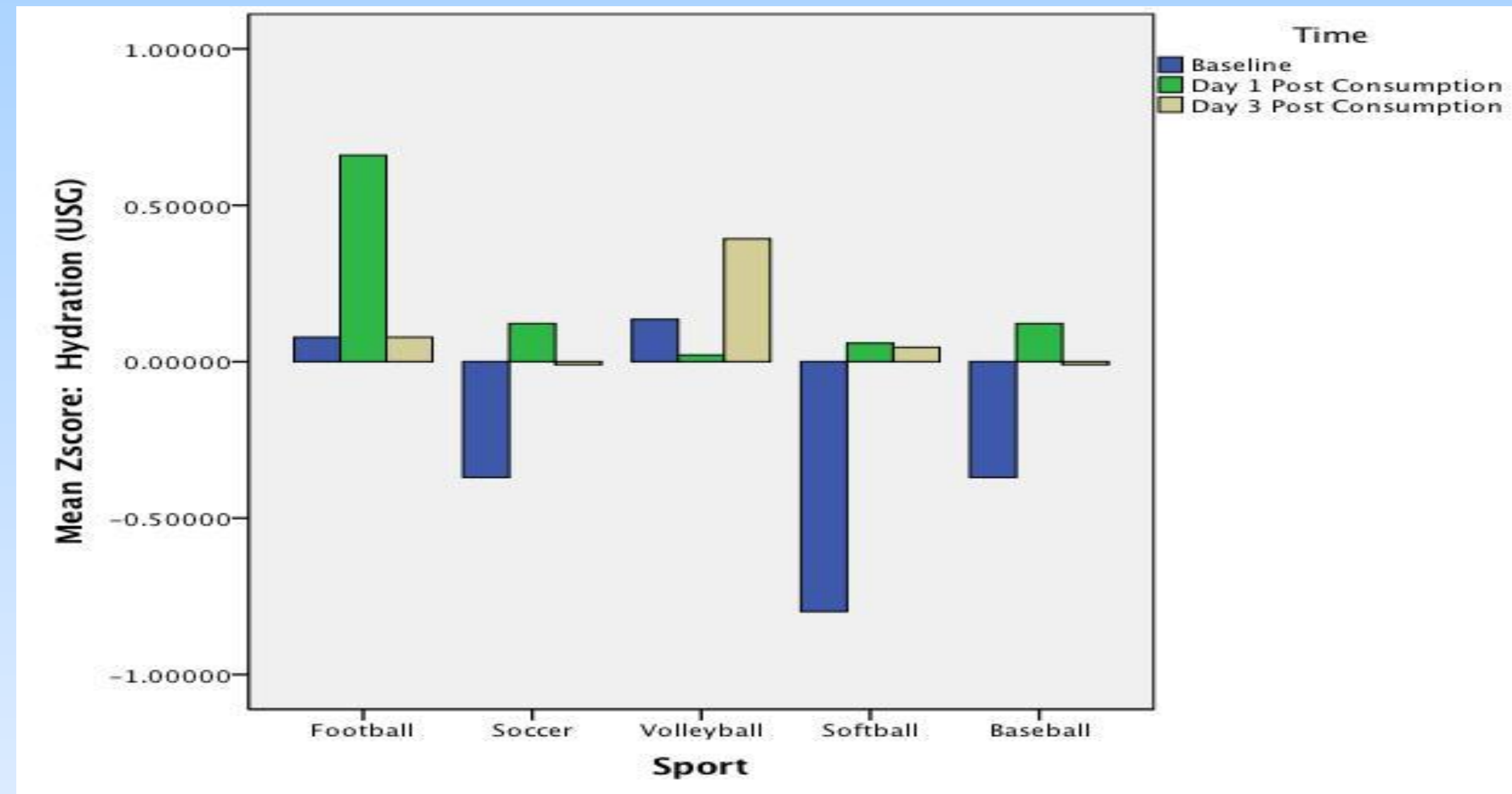
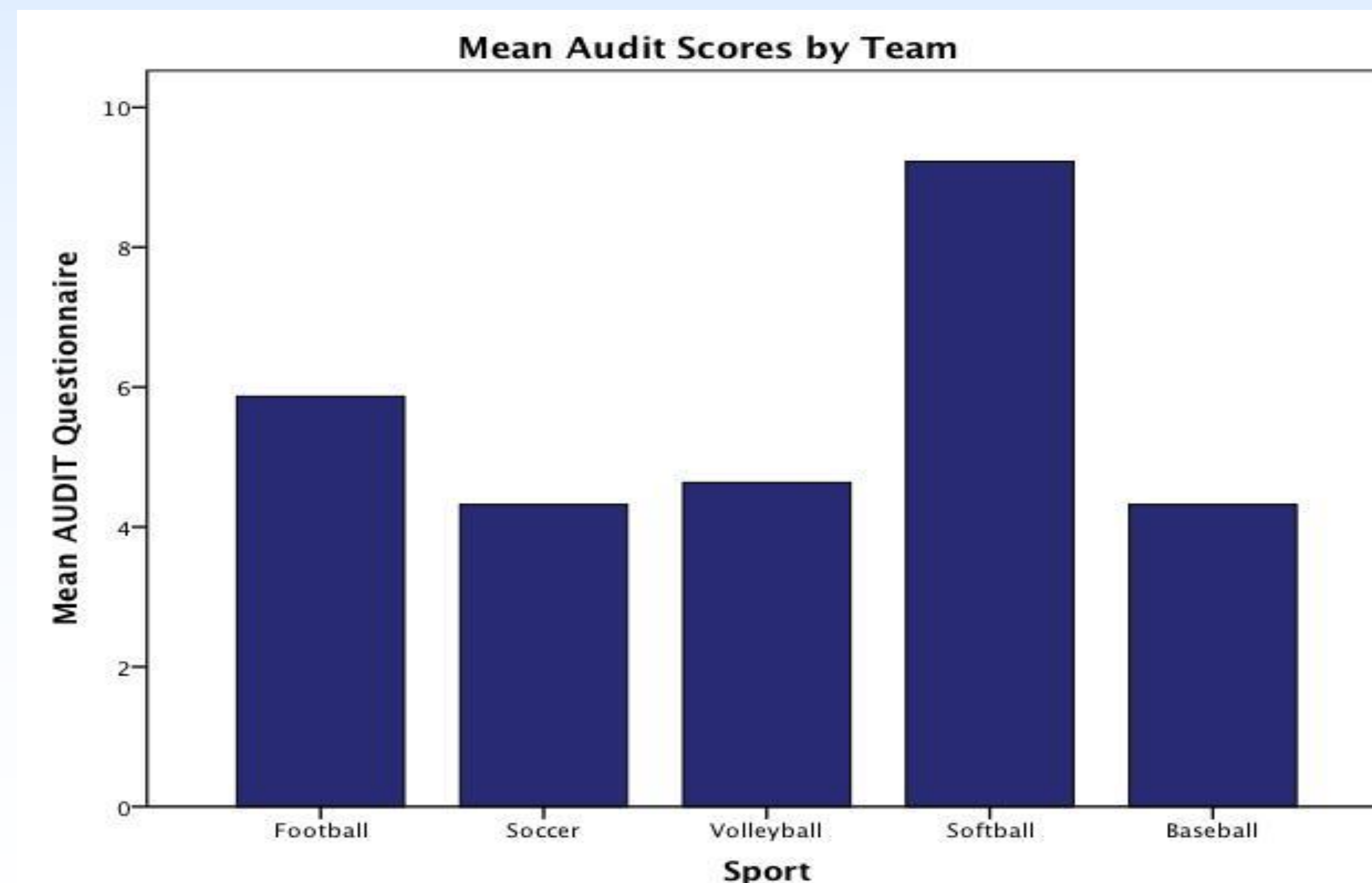


Figure 2. Mean Audit Scores by team



We observed significant increases in hypohydration over time from the baseline hydration measure to the follow up day 1 and follow up day 2. We observed significant difference in AUDIT score with softball scoring the highest and soccer and baseball scoring the lowest.

Discussion

Although no significant relationships could be determined between the dependent measures, we did observe athletes being hypohydrated after consumption and remaining in a dehydrated state for 72 hours post consumption. Exercising in a dehydrated state over time can lead to alterations in a person physiology. Specifically, the body alters its thirst perception, so athletes do not know they should consume. A desensitization to water deprivation also develops. These two physiologic changes can significantly alter a persons ability to maintain a euhydrated state and significantly decrease their ability to perform.

Although differences were determined on AUDIT response by team, other factors may have affected these responses. Athletes reported anxiety when reporting answers and reported a fear of retribution from coaches and other teammates if they were to answer honestly.

Although we did not determine a relationship with fatigue, we know that alcohol suppresses Rapid Eye movement sleep causing sleep to be altered thus increasing fatigue.

Conclusion

Although strong correlations between dependent measures were absent, results may indicate alcohol consumption has an impact on hydration status. Although other factors may have influenced hydration, we did identify significant dehydration following alcohol consumption.

References

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