

# Sleep Quality of Collegiate Athletes and Non-athletes

## Introduction

### Purpose:

The purpose of this research study was to investigate the difference in sleep quality between collegiate athletes and non-athletes.

### Review of Literature:

- Armstrong and Oomen-Early (2010), Baroni, Bruzzese, Di Bartolo, Ciarleglio, and Shatkin (2018), Demiral (2016) all found difference in sleep quality between athletes and non-athletes.
- Armstrong and Oomen-Early (2010) studied social connectedness, self-esteem, and depression and if there was a significant difference in these areas based on athletic status; and concluded that athletes had greater social connectedness, self-esteem, and lower depression rates than non-athletes.
- Baroni, Bruzzese, Di Bartolo, Ciarleglio, and Shatkin (2018) studied the effects of sleep on mood and anxiety in college students; and concluded that the subjects enrolled either into a sleep course or a psychology course had improved sleep.
- Demiral (2016) studied the quality of sleep in athletes and non-athletes, and the relationship between positive sportsmanship and quality of sleep; which concluded that athletes scored significantly higher on the Pittsburg Sleep Quality Index (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989), indicated sedentary individuals had poorer sleeping than those who were physically active.

### Hypotheses:

1. Collegiate athletes would have a lower total sleep quality score, which is the sleep habits score and the tiredness score combined, compared to non-athletes.
2. Collegiate athletes would have a lower sleep habits score than non-athletes.
3. Collegiate athletes would have a lower tiredness score, and be more tired, than non-athletes.

## Methods

### Subjects:

- The subjects of this study were 32 college students; with
  - 16 collegiate athletes and 16 non-athletes
  - Ranging from 18 to 22 years old.
- The study included 3 subjects that were 18 years old, 3 subjects that were 19 years old, 14 subjects that were 20 years old, 11 subjects were 21 years old, and 1 subject that was 22 years old.

### Measuring Instruments:

#### Demographic Questions

- 6 questions
- Includes nominal and Likert scale questions
- The Likert scale question measured tiredness

#### The Joint Contribution of Sleep, Intelligence, and Motivation to School Performance Questionnaire (Meijer & van den Wittenboer (2004)

- 8 items;
- Including nominal and interval scale items;
- 5 out of the 8 questions measuring quality of sleep were in 3-point Likert scale

### Procedures:

1. The subjects were selected through convenience sampling;
2. Before participating in the survey, the subjects completed an informed consent form;
3. The subjects completed the measuring instrument online which took approximately 10 to 15 minutes.

### Statistical Analyses:

- Three independent group t-tests were performed by SPSS 25;
- Independent variable was athletic status, with two groups of athletes and non-athletes;
- Dependent variables were:
  1. Sleep quality
    - Combination of sleep habits and tiredness scores:
    - Sleep quality score was ranged between 9 and 35;
    - 9 represents very bad sleep and 35 represents very good sleep.
  2. Sleep habits
    - Sleep habits score was ranged between 5 and 15;
    - 5 represents very bad sleep and 15 represents very good sleep.
  3. Tiredness
    - Tiredness score was ranged between 4 and 20;
    - 4 represents very tired and 20 represents not tired.

## Results

1. Sleep quality
  - Nonsignificant mean difference of sleep quality score between athletes and non-athletes ( $t = 2.128, p = .184$ ) was found.
2. Sleep habits
  - Nonsignificant mean difference of sleep habits score between athletes and non-athletes ( $t = 2.147, p = .921$ ) was found.
3. Tiredness
  - Significant mean difference of tiredness score found between athletes and non-athletes ( $t = 1.508, p = .009$ ), the mean tiredness score of athletes were lower than non-athletes.

## Discussion

### Conclusion:

1. Sleep quality
  - No clear differences in the total sleep quality between athletes and non-athletes and they appear to have similar sleep quality.
2. Sleep habits
  - No clear difference in sleep habits between athletes and non-athletes and they appear to have similar qualities.
3. Tiredness
  - Clear difference that athletes are more tired than non-athletes.

### Connection:

- Armstrong and Oomen-Early (2010)
  - Similar subjects used but they focus on social impact and depression more than sleep.
- Baroni, Bruzzese, Di Bartolo, Ciarleglio, and Shatkin (2018)
  - Similar subjects used and focuses on testing sleep, but this study used a course to determine a difference.
- Demiral (2016)
  - Similar subjects used and focus on sleep, but the results show that athletes sleep more poorly than non-athletes which this study did not conclude.

### Limitations:

- Random selection of athletes and non-athletes, because all subjects could not be randomized with the resource the researcher had, and only convenience sampling can be used, with the results are less conclusive;
- Time constraint that limited the number of subjects participated and the research design resulted with a less comprehensive study.

## Recommendations

- Physicians on college campuses and athletic trainers for college athletic teams are recommended to be aware of the amount of sleep college students get, encourage and help them to obtain more and better sleep.
- Future researchers are recommended:
  - To conduct or replicate similar studies by using random selection of subjects, rather than convenience sampling.
  - To have more variety of type of sports with some in-season and some out-of-season at certain points throughout the year may relate to sleeping amount and quality in athletes.
  - To compare a demographic question of gender and compare gender differences of athletes and non-athletes in sleeping quality.

## References

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