



The Impact of Time of Day on Adolescents' Short Term Memory Patterns

Megan Meyer

UNorth Bay Haven High School, Panama City, Florida

For more information, contact:
 Robin Vaughn
 1 Buccaneer Dr
 Panama City, FL 32404
 United States
 (850)-860-0649
 vaughnrl@bayhaven.org

Abstract

Objective: This study aims to offer cogent insight into the connection between the time of day and short-term memory. Specifically, the variation between morning and afternoon is analyzed among high school students.

Methods: To determine this, a short-term memory test was taken by students ranging from grades 9 to 12 in both the morning and afternoon. The results were compared to provide the presence, or lack, of contrast.

Results: It can be concluded that students' short term memorization patterns do not vary greatly between the morning and afternoon.

Objectives

- to understand the correlation between the time of day and high school students' short-term memory patterns

Limitations

- sample size
- diversity

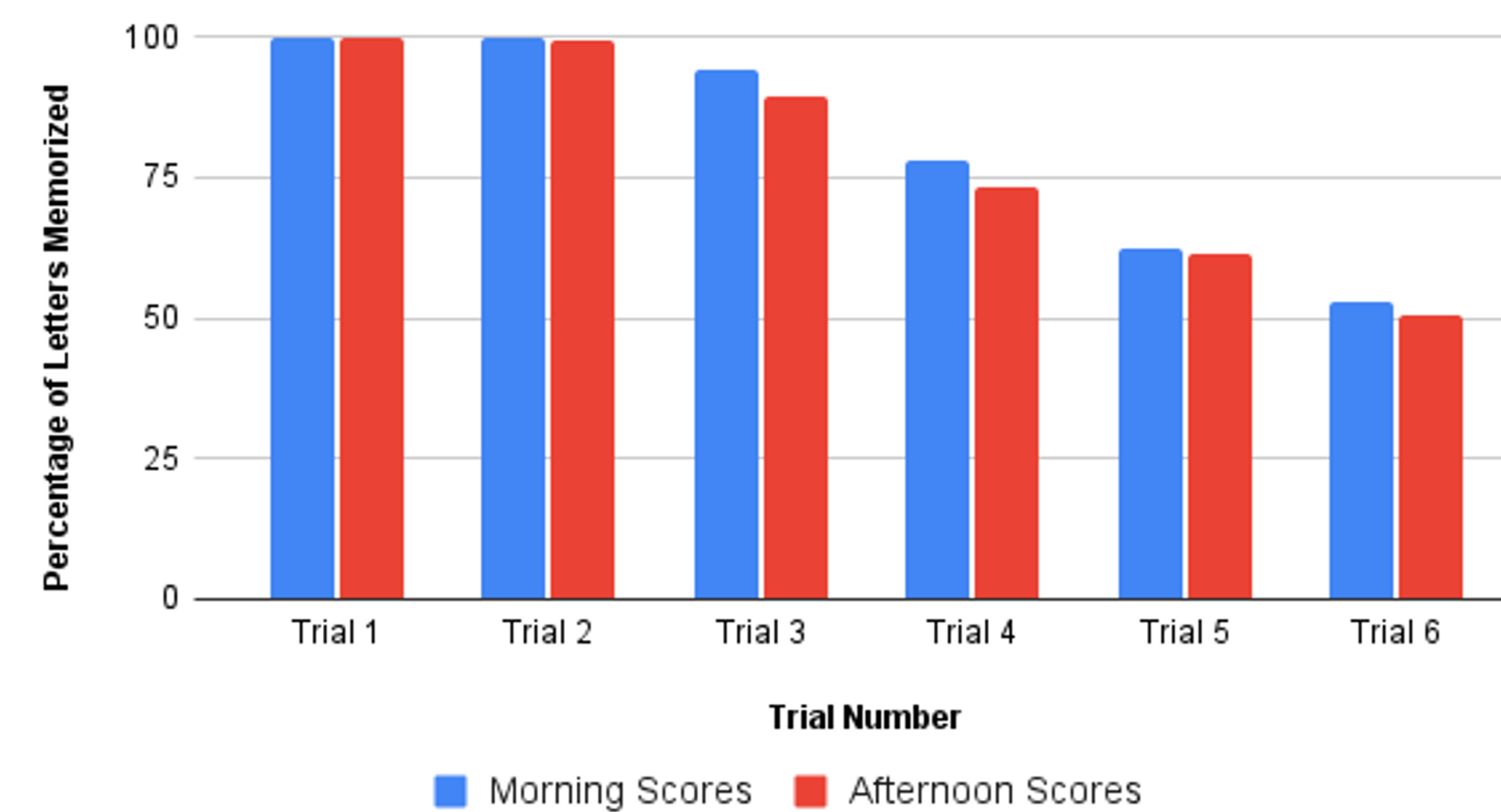
Conclusions

- average high school students' short term memory patterns do not vary throughout the day
- students in AP/DE classes perform better in the morning
- students in Advanced/Honors classes perform better in the afternoon

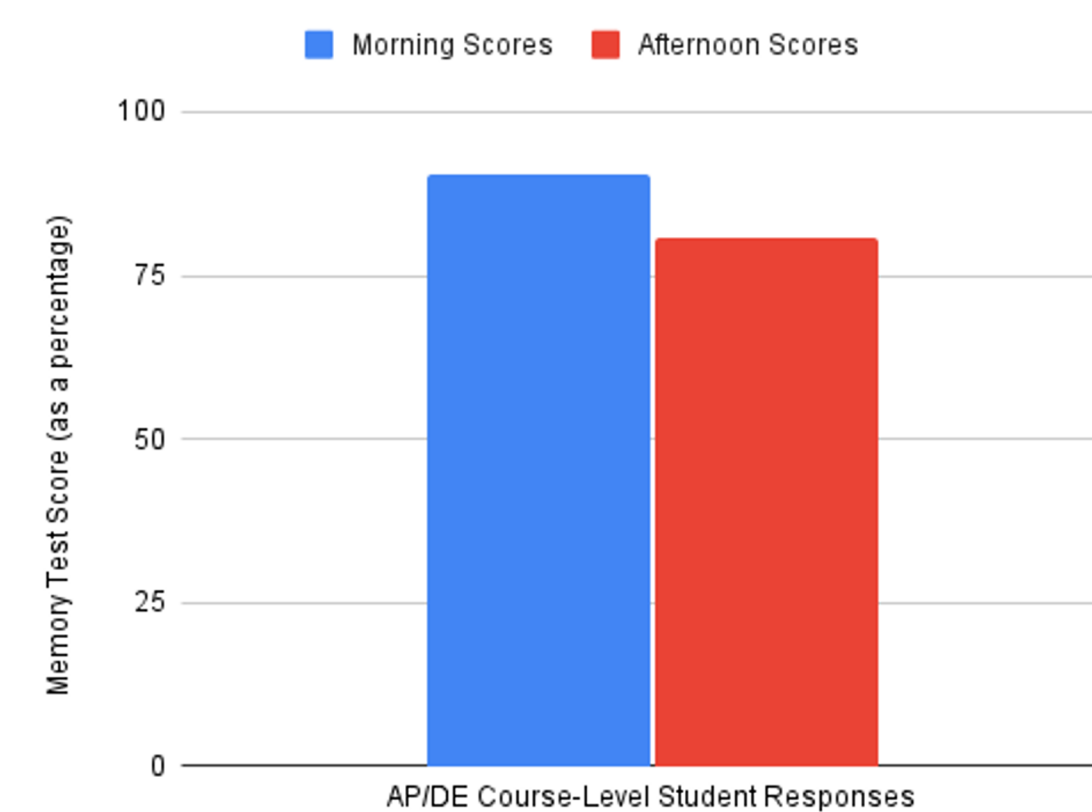
METHODS

- short term memory test given to high school students of all academic levels
- morning and afternoon scores were compared directly

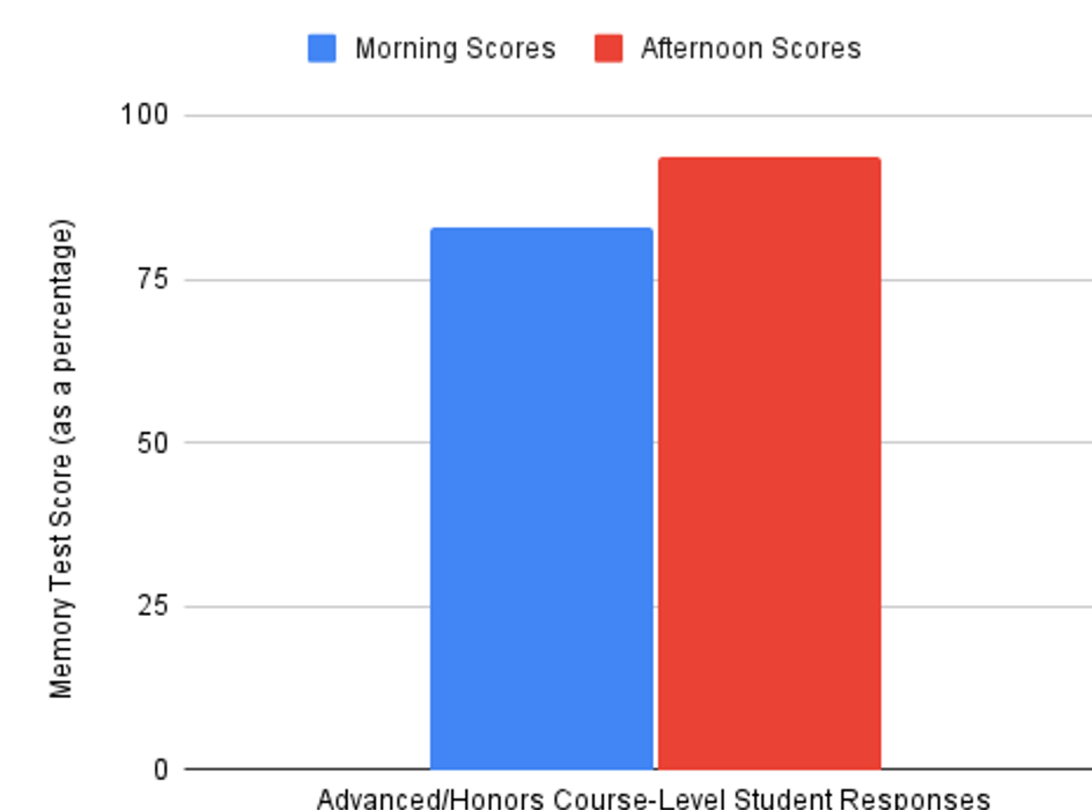
Student Memorization Scores



AP/DE Course-Level Students: Morning vs. Afternoon Scores



Advanced/Honors Course-Level Students: Morning vs. Afternoon Scores



Analysis

- General scores are balanced and do not show large changes
- Advanced/Honors classes performed better in afternoon
- AP/DE classes performed better in the morning
- Male subjects did nearly identical between morning and afternoon
- Female subjects did slightly better in the morning

Implications

- Schools should build schedules around what is best for students
 - Place AP/DE classes in the morning
 - Place Advanced/Honors courses later in the day
 - Utilize Regular course to fill in slots between
- High school students can consider this on a personal level when building scheduled habits
 - General results show melatonin's lack of influence
 - Performance levels likely depend strongly on routines

Additional Information

- Daily melatonin release patterns begin and end later in adolescents than in adults
- Sufficient REM cycles allow for short-term memories to become long-term memories
- Sleep patterns display why the time of day may or may not play a role in academic performance