

# An Application of Gardner's Theory of Multiple Intelligences on High School Athletes

## Introduction

### Question

When looking at athletes of different sports within a high school athletic program – such as golf, swimming, basketball, lacrosse, baseball, softball – how do dominant intelligence types, according to Howard Gardner's theory of multiple intelligences, compare to one another?

### Hypothesis

Athletes on sports teams that are more focused on working with one another – baseball, softball, lacrosse, basketball – should have interpersonal intelligence as their most dominant intelligence type, whereas those in more individualized sports – swimming, golf – should have intrapersonal as their most dominant intelligence type.

### Gardner's Theory of Multiple Intelligences

In 1983, Howard Gardner identified 8 different intelligence types, in which he theorized that each person has varying levels of each intelligence type, and no two people have identical intelligence ratings. The 8 intelligence types are linguistic, logical, musical, kinesthetic, visual, intrapersonal, interpersonal, and naturalistic. Linguistic intelligence means that a person has the ability to use languages effectively to accomplish certain goals, and logical intelligence means that the individual has the capacity to analyze problems using logical reasoning and problem solving. Musical intelligence implies that the person contains skill in performance and the emotional aspect of sound,

whereas kinesthetic intelligence entails using one's body to solve problems. A person with interpersonal intelligence has the capacity to understand the intentions, motivations, and desires of others, and intrapersonal intelligence requires the capacity to recognize one's own desires, fears, and capacities. Finally, naturalistic intelligence requires recognition for living and natural things, and visual intelligence implies an ability to recognize and manipulate the visual aspects of the world.

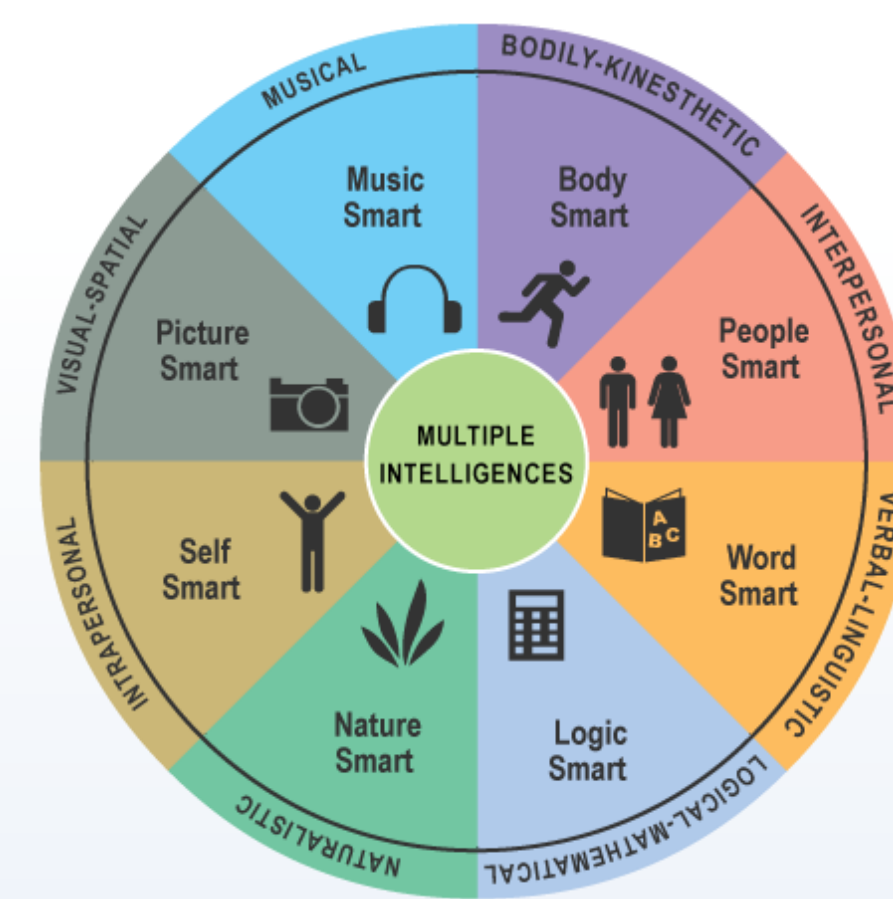


Figure 1. A visual representation of each of the intelligence types, as theorized by Howard Gardner in 1983.

## Materials & Methods

### Methods

When taking the survey, the only identifying information asked of participants was their age, what sport they play, and what team they were on (varsity, junior varsity, or freshman/sophomore). The participants then continued by answering a series of 40 randomized questions about themselves, five of which corresponded to each of the intelligence types previously specified. Survey-takers rated each statement on a scale of 1 to 5, with 1 meaning that they did not at all identify with the statement, and 5 meaning that they fully identified with the statement. After completion, the subscores were calculated for each individual, and the sum of all of these subscores was used to determine how each intelligence type compares to the others in terms of dominance for each specific sport being analyzed.

### Participants

The groups of student-athletes eligible to be surveyed for this study were those juniors or seniors who participated in either lacrosse, basketball, golf, swimming, baseball, or softball. These sports were chosen because each holds varying levels of individual participation versus team cooperation, which was necessary for drawing conclusions for this study.

## Abstract

After Howard Gardner proposed his theory of multiple intelligences in 1983, many researchers took it upon themselves to find correlation between this theory and other aspects of life, such as varying groups of people. One such application has been toward student-athletes. This study explores the connection between Gardner's theory of multiple intelligences and high school athletes who play a variety of sports. The ultimate goal of this project is to determine how dominant intelligence types, based on Gardner's theory, apply to these athletes who participate in differing sports, with the ultimate goals of drawing conclusion for all sports. A survey was used for participants to self-determine their dominant intelligence types. This data was used to draw conclusions on the dominant intelligence types for each of the sports being analyzed.

### Intelligence Dominance Comparison

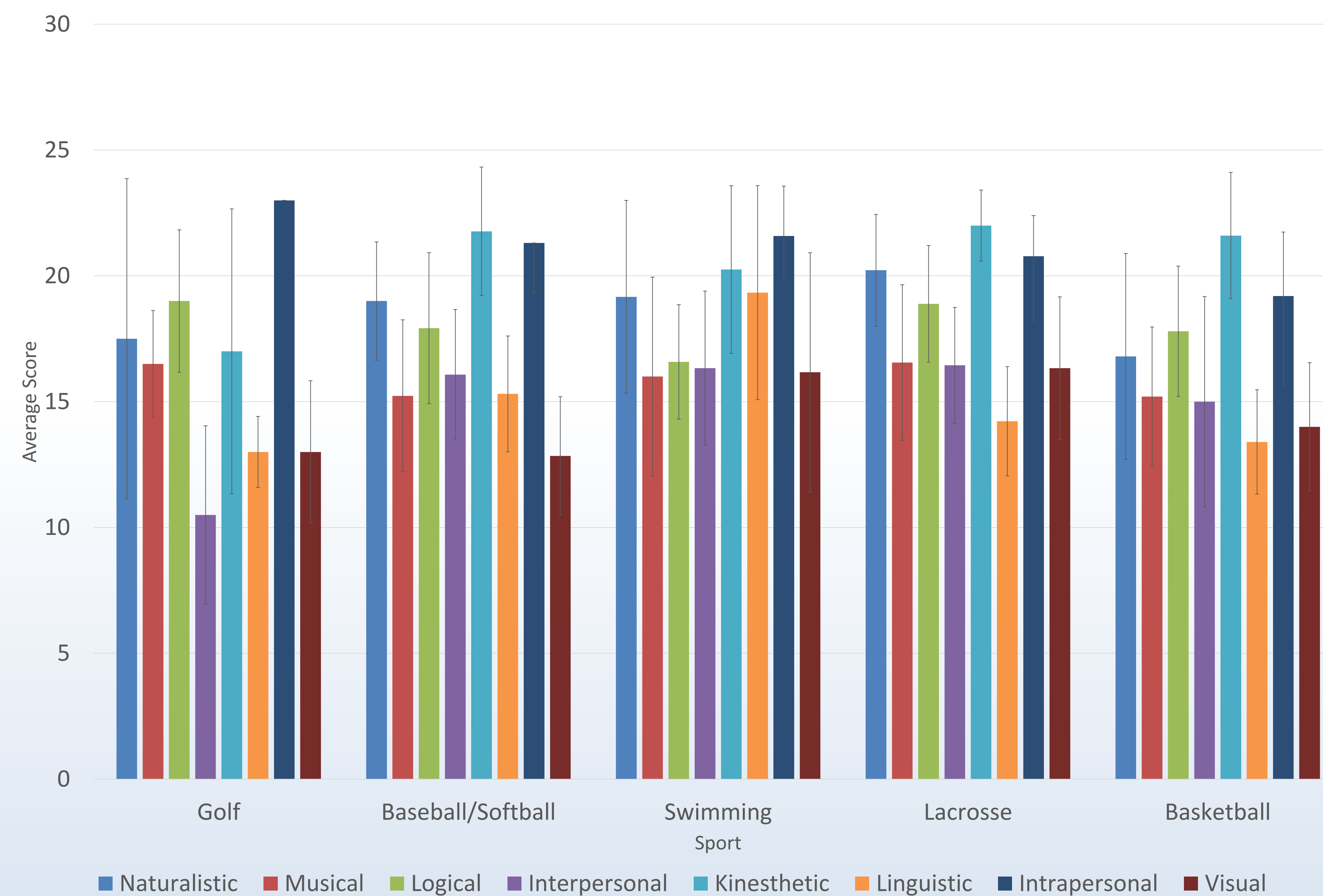


Figure 2. The graph above depicts how the average scores for each intelligence type compare based on the sport being played, as well as comparing all of these values for each sport to one another. It should be noted that the values for each set of data were calculated by finding the total sum of responses for each respective intelligence type, and dividing by the number of total participants for each sport, giving comparable average values.

## Results

Listed for each sport is the most dominant intelligence type first, followed by the second most dominant intelligence type, with the least dominant intelligence type listed last.

**Golf** – intrapersonal, logical, naturalistic, kinesthetic, musical, linguistic, visual, interpersonal

**Baseball/Softball** – kinesthetic, intrapersonal, naturalistic, logical, interpersonal, linguistic, musical, visual

**Swimming** – intrapersonal, kinesthetic, linguistic, naturalistic, logical, interpersonal, visual, musical

**Lacrosse** – kinesthetic, intrapersonal, naturalistic, logical, musical, interpersonal, visual, linguistic

**Basketball** – kinesthetic, intrapersonal, logical, naturalistic, musical, interpersonal, visual, linguistic

## Discussion

The most relevant and obvious result of this study is that there is a noticeable difference in the dominant intelligence types of individuals who participate in different sports. One trend that was not expected was the contrast between athletes who play more individualized sports and those whose sports are more team-oriented. Athletes in sports that were team-oriented and required consistent cooperation with teammates – specifically baseball, softball, basketball, and lacrosse – had kinesthetic intelligence as their most dominant intelligence type. This could be due to a strong desire to be physically more fit and better than one's teammates, but the exact reasons for kinesthetic intelligence being most dominant instead of interpersonal intelligence is unknown. In comparison, athletes in sports that require more of an individualized focus – such as golf and swimming – had an intrapersonal intelligence as their most dominant intelligence type. In regards to individualized sports having a high intrapersonal intelligence, this can be expected, because an intrapersonal intelligence corresponds with knowing oneself and being focused on one's own actions, despite surrounding conditions. Another result found by this data is that athletes who participate in lacrosse and basketball have almost identical intelligence dominance rankings. Aside from the third and fourth most dominant intelligence types (naturalistic and logic intelligences), the rankings for these two sports were the same. This is a reasonable conclusion because, of the five sports analyzed through this study, basketball and lacrosse have the most similarities – including practice styles, how competitions are conducted, and the general rules of the sport. It should also be noted that many values for intelligence types within sports are very close in average – this may be due largely in part to the fact that each individual person is different, and will have varying experience with the sport. Because this study's primary purpose was to compare intelligence type dominance among sports, the amount of time dedicated to the sport may be a key factor in the possible variance of results. Individuals who participate in more than one sport were also taken into account through this study by being asked to respond for the sport with which they identify most, so as to ensure that their data would correspond accordingly.

## Conclusion

This study shows that there is a difference among the dominant intelligence types of athletes who participate in different sports. As hypothesized, there is a notable difference between the dominant intelligence types of athletes who participate in team-oriented sports versus those who participate in more individualized sports. Furthermore, athletes who participate in team-oriented sports – basketball, softball, baseball, lacrosse – have kinesthetic intelligence as their most dominant intelligence type. Those who participate in more individualized sports – golf, swimming – have intrapersonal intelligence as their most dominant intelligence type.

### References

Gardner, H. (1983). *Frames of mind: the theory of multiple intelligences*. New York: Basic Books.

### Acknowledgements

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