

Introduction

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survey + raw data
+ bibliography

For my internal assessment, I will be determining whether or not participating in cross country/track running as a sport affects your GPA. Also, along with this, I will be determining whether or not doing sports in general affects your GPA. In order to collect my data, I did a survey of fifty people for each category. The three categories were: runners, other sports, and no sports. The one-hundred fifty people consisted of both genders and all four grade levels as well. I believe this data was sufficient in quality and quantity for the mathematical ✓ processes. Upon collecting the data, I asked different members, grades 9-12, of the cross country and track teams what their GPA was in a survey. I had athletes at a track meet, from different schools; fill out surveys as well that made them specify whether or not they played other sports besides running, and what their GPA was. I completed this at a track meet to ensure that I would receive enough data for the experiment. Since I am on the track team at RBR, this was easy for me to do. Next, I asked participants of different sports in my school including football, lacrosse, field hockey, and baseball. Lastly, I asked students of the same criteria that play no sports at all. I then compiled the surveys, organized them, and developed a chart that would help me create a graph. *was the data collection random?*

Now that I have collected my data, there are three different things that I plan to determine. I will first figure out whether or not a student who participates in sports has a higher GPA than a non-athletic student. *How?* Typically, a student may have less time to do school work since they have practice and games after school. I would also like to determine, with the data that I have compiled, if runners have a higher GPA than those who play other sports. Based on research that I have done regarding runners and academics, it can be concluded that running may have a positive impact on your GPA. This is as a direct result of an increased production of specific proteins (that enhance brain development) developed during physical activity. *How do you know this?* This is followed by the theory that exercise can change our mental state and boost our creative capacity. Surprisingly enough, I am genuinely interested in this topic considering my personal experiences. Before I began running my junior year, my GPA was much lower than it is now. This could be because of other circumstances but this experiment will help me determine if running could be one of the reasons for my increased GPA.

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→ The task of this experiment is to see if an individual's Grade Point Average (GPA) is independent of the food group (proteins, fruits, vegetables, dairy, and grains) they consume the most in a seven day week. I picked this topic out of curiosity because I assume people who eat healthier foods like vegetables and fruits have a higher GPA because it is healthier for the body and brain. One may think if an individual consumed more healthy food like vegetables and fruits they would have a higher GPA. By parents and health teachers vegetables and fruits are considered "brain food" and help the mind and body become stronger. I also think that if a person consumes a food group that please their taste buds and their overall state of mind is raised, then this could also lead to happiness and performing at your best. I personally believe that the individuals who consume healthier foods (vegetables and fruits) will have a higher GPA. The sample that I will be using to carry out my hypothesis is part of the Red Bank Regional High School student population. However, despite that the sample will be derived from the Red Bank Regional High School population, the 40 individuals used will be chosen at random, I will not seek out a specific targeted group. I will be collecting data from study different study halls that let me survey students and other students I happen to cross paths with while I have my surveys with me. I will be collecting the data through a survey. It provided more confidentiality for the participant and decreases the chances of outside influence in the participants answer. However survey can lead to inaccuracies in the participants answer if they fill out the survey with false information, but hopefully the confidentiality and anonymity of the survey will prevent that. When I collect all my data from my participants I will organize it through a table and then perform the chi-squared test, receive my results and then analyze it accordingly from there. The data will also be shown in a bar graph to provide a visual of the data collected. I will be using the chi-squared test because the results from that test will tell if whether these two categories (Most eaten food group and GPA) have any relation to each other by testing the independence. My Null hypothesis being an individual's GPA is independent of the food group they consume the most weekly. My Alternative hypothesis is an individual's GPA is not independent of the food group they consume the most weekly.

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Is your basketball position related to your # of rebounds per game?
? spell it out

Introduction

For my internal assessment I will be analyzing whether rebounds per basketball game and basketball position are related to each other. I want to research this because I enjoy basketball and sports statistics. Basketball is one of my favorite sports to watch. In order to research this I will be looking on the internet (NBA.com) to find these statistics & collect data. The numbers I will use for my data will be chosen from the 5 starters, the 2 guards, 2 forwards and the center from 10 NBA teams (Boston Celtics, Philadelphia 76ers, New York Knicks, Brooklyn Nets, Toronto Raptors, Chicago Bulls, Cleveland Cavaliers, Detroit Pistons, Indiana Pacers, Milwaukee Bucks). The teams will be from the Atlantic and the Central division of the Eastern Conference. I picked this way because it was random as I just chose random divisions within the conference. I put all of the divisions into a hat and pulled out those teams. I will be analyzing their 2013-2014 season averages. The stats will be shown in a table as well as a scatter plot. After collecting my data, I will review via a chi square statistical test to find out if the amount of rebounds per game and basketball position is independent on each other. I will also be finding the mean per game for position. Depending on the results I will be able to see what positions are supposed to get the most rebounds. I will do this to see the average rebounds each position has. I think that the center will average the most rebounds per game and the guards will have the least rebounds per game. My null hypothesis is that rebounds per game and basketball position are independent. My alternative hypothesis is that rebounds per game and basketball position are not independent.

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