NC STATE UNIVERSITY

Department of Statistics
Sports Analytics Club

All Average NBA Team

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Methods

Using Data from the 2019-2020 NBA Season, we created a metric called SScD which stands for Sum of Scaled Differences. To compute this, we started with each player's baseline stats and divided by the number of games that player played in. We subtracted the median "per game" statistic of all players from each player's individual per game statistic. Finally, we took the absolute value of this to obtain how far each player differed from the median, in our case the "Average".

From there, we noticed that many variable were on different scales (for example, the number of points per game and FT%/Games Played. To adjust for this, we scaled each value by subtracted the minimum and dividing by the range. This allows all variables used to have equal weight.

Lastly, we broke the players up by position and ordered them by SScD. For reference, a player whose SScD = 0 would be a completely average person. We chose the players with the lowest SScD by position to be on the "All Average Team".
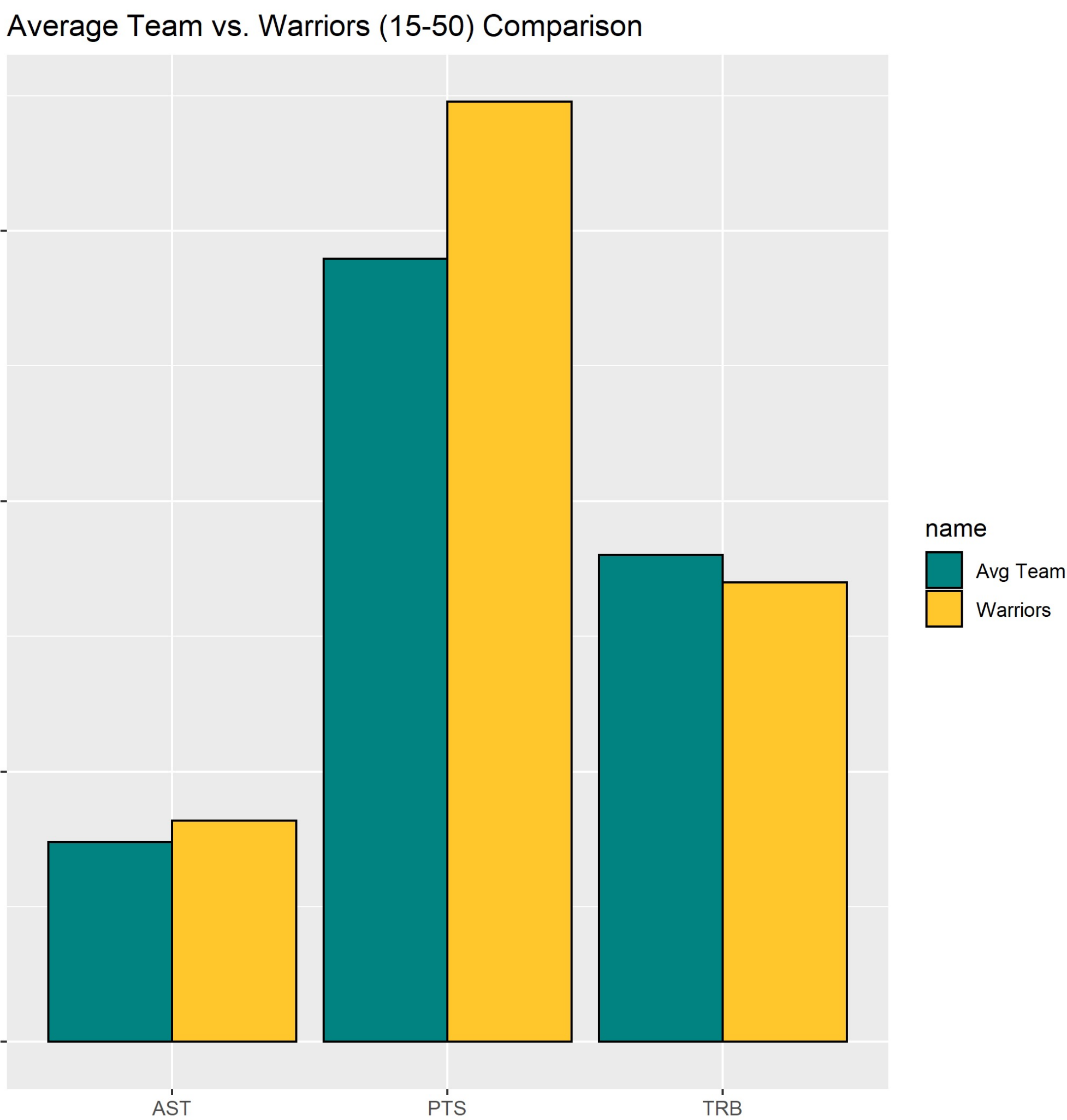
Eligibility

In order to make sure all players in the data set are full-time NBA players, we set a Playing Time Requirement of more than 19 games (~25% of NBA Games in a normal season) and more than 240 minutes played (1 Quarter for each of those 19 Games.

Visualizations
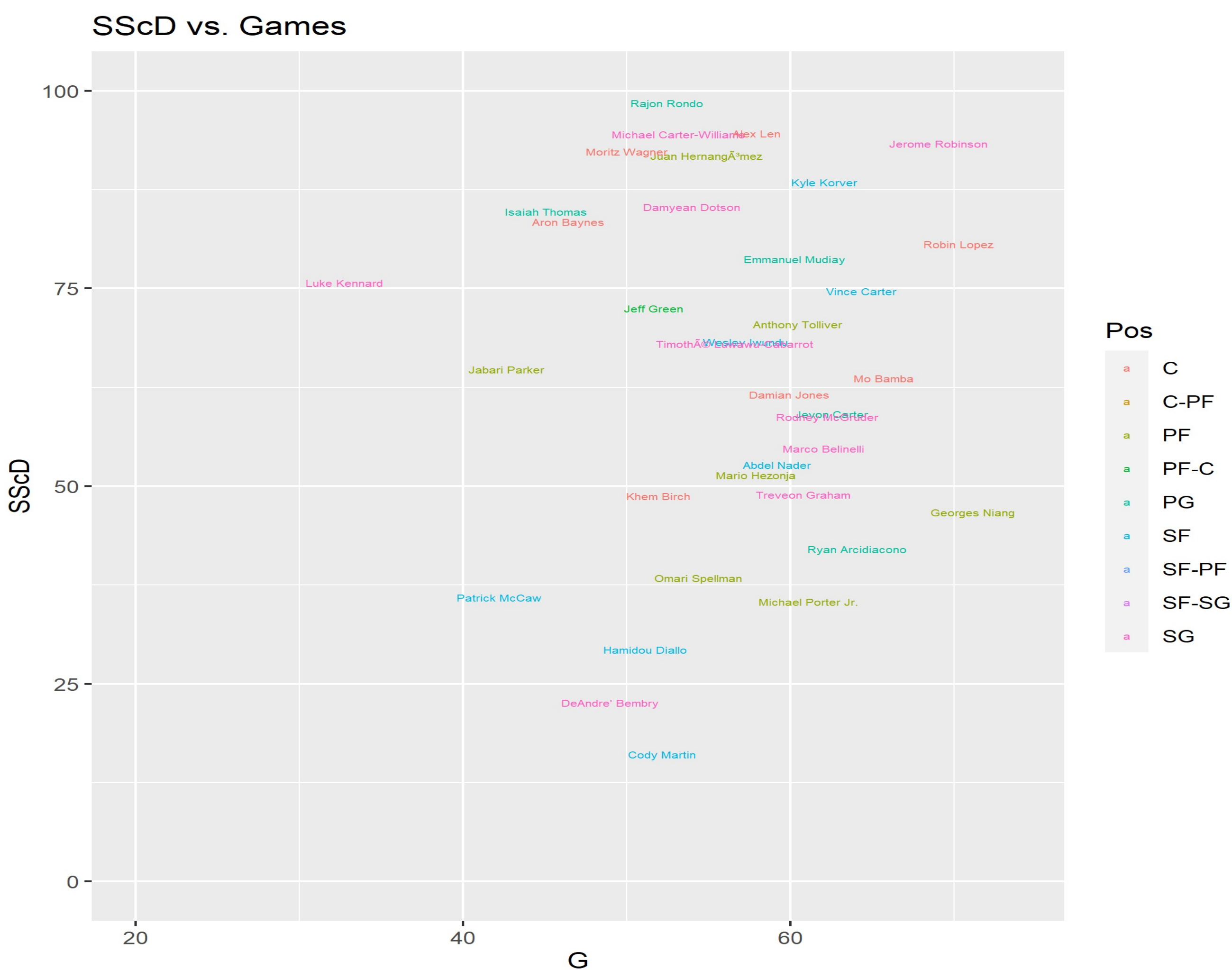
Zoomed In Version of Games Played vs SScD Graph

Average Team Vs. 15-50 2019 - 2020 Warriors Starters

All Average Team

PG: Ryan Arcidiacono   SScD: 42.03829

SG: De'Andre Bembry   SScD: 22.59081

SF: Cody Martin   SScD: 16.11058

PF: Michael Porter Jr.   SScD: 35.38824

PG: Khem Birch   SScD: 48.78179

Further Work

We have already begun to reverse this process. Our idea was that if we could find the most average players in the NBA, we could use the same formulas to find the least average players in the NBA. Due to our eligibility restrictions, these mostly turned out to be all-stars, however this idea will be explored more fully later.