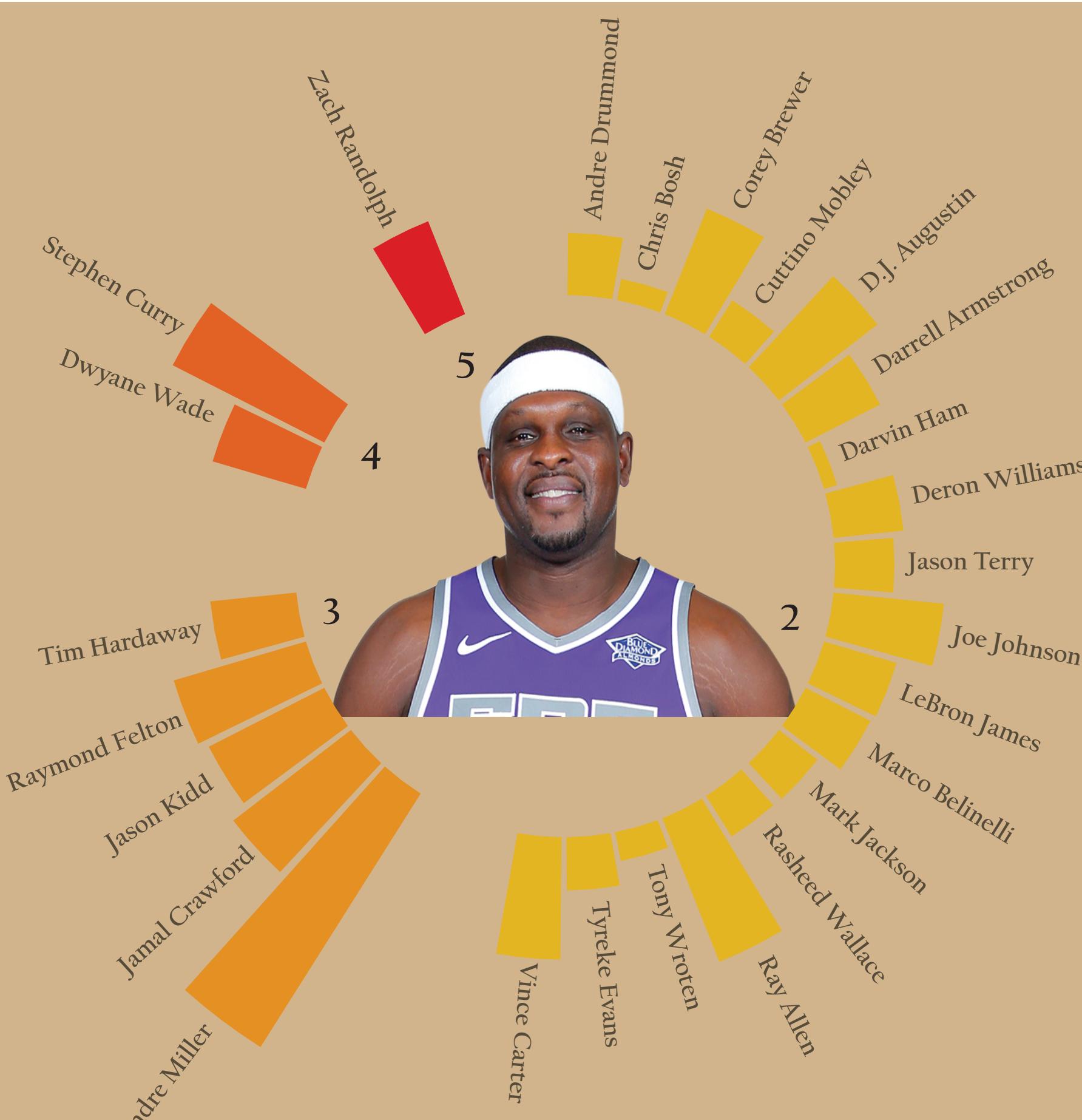


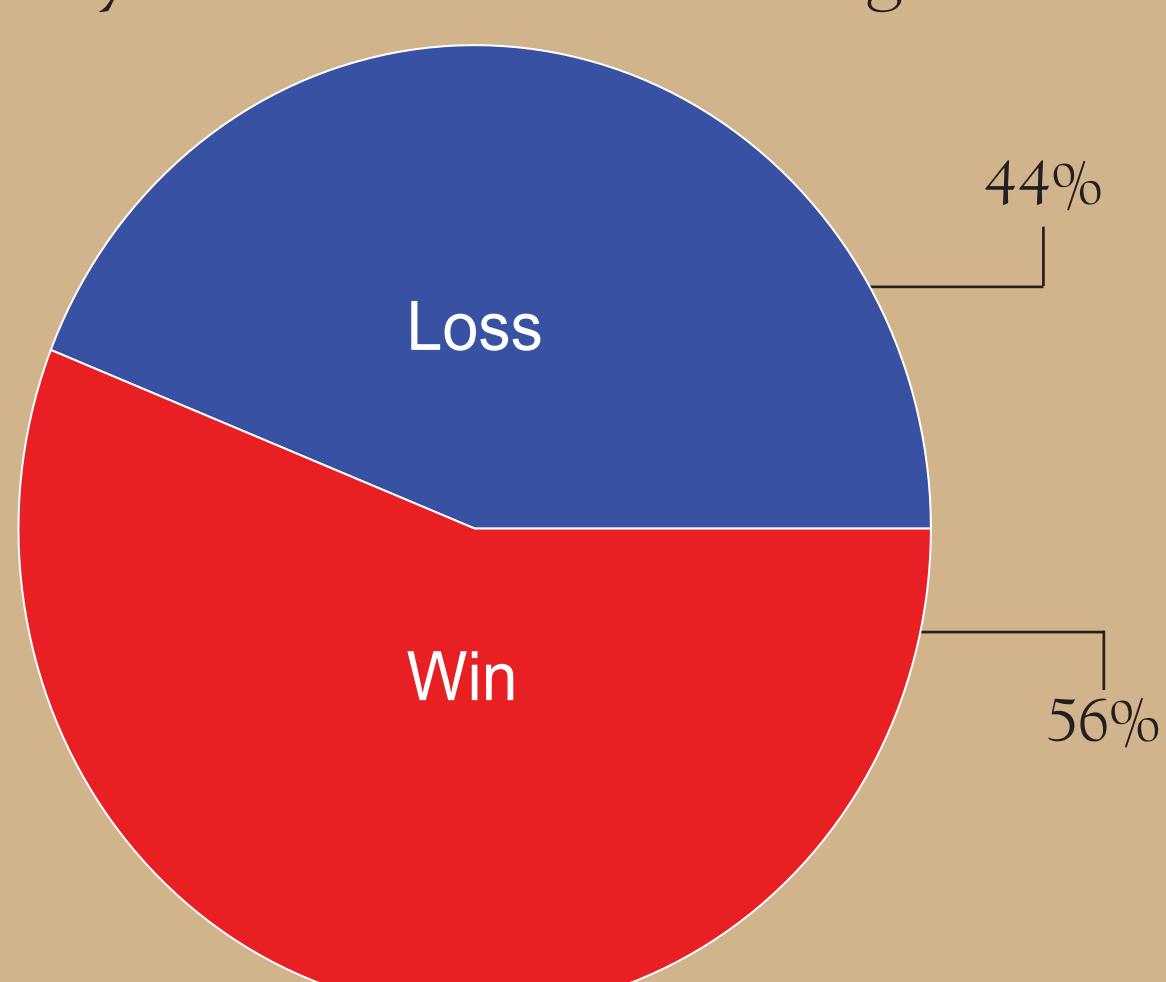
# Beyond Half Court

IST 719 - Kyle Welch

Should players risk lowering their field goal percentage by taking a highly unlikely shot?  
If players do take a beyond half court shot, how likely is it that it will benefit their team?



Most players take less than 15 beyond half court shots over the course of their career. For a player that plays for multiple seasons 15 or less shots are going to have a marginal effect on their overall career field goal percentage. At the extreme, Andre Miller attempted 111 beyond half court shots and missed 108 of them. Andre Miller's career shooting splits were FG%: 46.1% and 3P%: 21.7%, if the shots from beyond half court are removed Andre's shooting splits improve to FG%: 46.4% and 3P%: 24.5%. Even for Andre, removing his beyond half court shots has an effectively marginal effect on his shooting splits and likely did not affect him during contract negotiations.



Regardless of what quarter it was or how much time was remaining, when a player made a beyond half court shot their team received a 6% swing in terms of likelihood that they win the game.

In the past 24 years, there have only been 10 beyond half court shots made in the fourth quarter. While this may seem low, when the game is on the line teams typically opt for higher percentage shots like a tip-in or a contested 3-pointer. Of those 10 made shots, only four of those teams ended up winning the game. Two of those four were made by Rasheed Wallace, once in Portland where he won the game at the buzzer and again in Detroit where he tied the game and forced OT which the Pistons would go on to win. Of the six losses, four of the makes came out of complete desperation, the shooting team had absolutely no chance of winning even if the ball going in. In December 2015, Kyle Lowry made a beyond half court shot that went in while time ran out and the Raptors fell just short losing 104-103.



Data was gathered using stathead.com which is managed by sports-reference.com. Distance from basket data was extracted using excel, all other data cleaning and subsetting occurred in R. Additionally, all plots were created in R using the base package or ggplot2.

While the beyond half court shot may be one of the most exciting plays in basketball, it is also much less common than you might expect. Over 7000 beyond half court shots have been taken in the past 24 seasons (1996 -2020) and only 166 have been made. The circular bar graph to the left represents the player's that made the most beyond half court shots throughout their careers. Zach Randolph made the most with 5, Zach Randolph is certainly no unknown, he had a long career most notably with Portland and Memphis; however, he is much less known than Stephen Curry and Dwyane Wade who made 4 each. In the 5 games where Zach Randolph made a beyond half court shot, his team won 80% of the time, or 4 of those games.



Andre Miller took over twice as many beyond half court shots as the 2nd highest player

## Fourth Quarter Buzzer Beaters

