

Using Golf Analytics to Determine the Optimal Age Range for Golfers on the PGA Tour

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Abstract

The study sought to address the belief that professional male golfers suffer a decline in performance as they age. Thus, the purpose of this research was to understand if age affects male golfers' performance on their entire performance for the PGA Tour for five seasons starting with 2013 and ending with 2017. The researcher sampled the top one hundred professional male golfers from the stated five seasons. The continuous variable was the average score of the golfers, while the categorical variable was the age range (20-29 years old, 30-39 years old, 40+ years old). Based on the amount of variables and the question to answer, the researcher decided to run an ANOVA test. After running this analytical test, the author concluded that there is no impact on the male golfers' performance based on their age range (20-29 years old, 30-39 years old, 40+ years old). These results are not on par with what was suggested from past findings.

Keywords: age range, average score, golf, PGA Tour, analytics

1. Introduction

According to various media outlets and websites, such as the Golf Channel and NBC Sports, there is a very common stereotype in the world of golf, which is that, in terms of performance, one gets worse with age. By analyzing performance data from five seasons (2013-2017), the researcher can determine the impact that age has on professional male golfers. By looking at the PGA (Professional Golfers' Association)'s list, "Official World Ranking", this research analyzed the top 100 players for five seasons (2013-2017). By narrowing the sample to the top performing professional golfers from five seasons on the PGA tour, it allows the author to evaluate how each player handles the pressure while competing in the tournaments with the biggest purse, most eyes watching, and most difficult courses. The scope of this research was to come to a consensus on how age impacts a professional male golfer. The paper used the top 100 professional players based on their position on the PGA's world ranking in 2013, 2014, 2015, 2016, and 2017. Each male golfer will range between a variety of ages such as people in their 20s, 30s, and 40s.

While analyzing the data per each golfer highlighted in the current research, the author used the PGA Tour official website. On this site, each male golfer's score is available for each tournament for the years they have been professional in the league. The tables containing the data show the golfers' final position in each tournament along with their score, margin, and the winner and runner up for the tournament. This website also has data containing the career results for each golfer, separating the winnings, final placement in tournaments, and final ranking per each year the golfer has been playing in the PGA Tour. The PGA Tour website also has a specific tab demonstrating each tournament the golfer had participated in that year, official or not, and if the player had finished par or better.

The problem the researcher is trying to solve is "Does age affects male golfers' performance on their entire performance for the PGA Tour for five seasons starting with 2013 and ending with 2017?"

2. Literature Review

In 2005, Chris Mills, author at Pro Golf Form, analyzed the top 100 players on the PGA Tour money list and the top 100 players on the European Tour in order of merit. Mills took these 200 golfers and looked at their scores in various tournaments. In addition, "the ratings are calculated by taking the player's mean stroke average for a tournament and then adjusting the score for the difficulty of the course and the strength of the field." The results showed that players that are 30-40 years old perform the best. This means that most golfers hit their peak during

this age range, which continues on into their early 40s. Further, “The first thing to note is that the largest number of qualifying players on the US PGA and European Tours fall into the 30 to 35 years of age category.” The fact that most players on the list are in this age category, almost one-third, and still do not have the best average score is interesting. This means that they do not perform at the top compared to the other golfers. In golf, athleticism isn’t the most important thing, which is a big reason why golfers tend to peak after 35. In other sports, most of the players are on their way down after they turn 30 years old. While athleticism is important, experience seems to edge it out on the overall scale of what’s most important to professional golfers. Golfers seem to get better with age, after all, according to this analysis (Mills, 2005).

In April of 2014, Joe Posnanski of the Golf Channel published an article titled, “Does Age Really Matter in Golf? Yes it does.” In this article Posnanski explains his view that professional male golfers age at much faster pace than many people believe. He listed the facts and information he used to come to this conclusion. Posnanski says, “The average and median age for major champions is 32. It skews a little younger at the British Open (median of 31) and a little older at the PGA Championship (median of 33), but it’s basically 32. That number has stayed pretty constant for 50-plus years. That’s your peak: age 32.” He also explains that players 35 and younger have won more than three-quarters of all the majors since 1960. Therefore, the conclusion from this article is that the younger the golfer, the better that golfer performs. Posnanski also explains, “Less than 10 percent – just 20 of 216 – of all majors were won by players 40 and over. It does happen, especially at the British Open (the last three British Open champions were all 40-somethings). But since 2000, only one golfer – 41-year-old Vijay Singh – has won a Masters, U.S. Open or PGA Championship” (Posnanski, 2014).

Another study produced in 2013 sampled those on the PGA Tour from the ages of 19 to 51. In this sample, studied over 2 years of the PGA Tour, the sample showed results that differed from other professional sports, and also showed outcomes that are shared across the professional athletic world. This study displayed a steady line of performance until the age of 26, stating that the sharpest decline does not occur to professional golfers until the mid 30s continuing through the rest of their careers, a statement that could be said for other professional athletes in different sports (Nichols, 2013). This article also focuses on other factors that contribute to the decline in a professional golfer’s performance. An important factor to consider from this study comes from the sample the researcher chose to use. The author states that the sample includes those on the PGA Tour the public would be familiar with and because of the financial disparity on the tour, the lifestyle of each golfer plays a part into their professional performance due to the constant travel or rigorous practice schedule. As Nichols says in the article, “Elite golfers are unlikely to lose their playing privileges on the PGA Tour, so they know that by maintaining their practice and preparation they can expect to earn more than a million dollars in prize money per season plus endorsements and appearance fees. That is what fuels golfers like Mickelson and Vijay Singh to take care of their bodies, to practice, to prepare for each tournament, and to withstand the weekly grind of playing in different tournaments.” These factors attribute to the motivation that professional golfers face in order to remain in their peak performance state to compete in tournaments (Nichols, 2013).

In addition, Golf.com published an article, “Most PGA Tour Pros Reach Peak Prize Money at Age 33 - But Will the New Generation Change That”. The author says, “The face of golf is getting younger. Golfers under age 30 won about half of the events played on the PGA Tour in 2015. This wasn’t always the case -- in the 1990s and 2000s, older golfers dominated. Clearly the Tour’s current crop of young talent is a step ahead of where it has been in the last few decades” (Nichols, 2016). This article also focuses on prize money earned in relation to age. Golf is a sport where earnings from playing are determined based on how the individual finishes in the tournament. That being said, it can be determined when golfers performed the most consistently based on when they collected the largest amount of prize money. This article provides insight into the earnings of golfers between the ages of 22 and 59 in an effort to demonstrate the effect that age has on overall performance.

Furthermore, another study looks specifically at how the age of a golfer affects the overall ability of that golfer to perform. The study states that “while each of us will invariably reach a point of diminishing returns, our golf skills may not decline as early or as rapidly as you might think” (Covey, 2014). This statement points out the fact that every golfer eventually will start to decline later in their career, but it does not mean that they are the best they will ever be when they are the youngest. This study did analyze its stats using a handicap, meaning that the author was trying to even the playing field between age groups. The results pointed to the fact that the best performing age group is 20-30 year olds. The study says this is expected because at such a young age, these golfers have more time to dedicate to golfing, whereas older golfers may have a family or other things to take up their time (Covey, 2014). Another important piece of information to point out is that golfer’s performance in terms of scoring starts to decline in the 40-50 age groups. This is interesting because over 19% of golfers are in that particular age range (Covey, 2014).

CBS Sports also published an article that reflects the incredible success of golfers under the age of 30 during the 2017 tour (Porter, 2017). Following Justin Thomas' (age 24) win at the PGA Championship over Phil Mickelson (age 47), Porter dissected the winning trend of other golfers under the age of 30 over the 2017 season. "Jordan Spieth, also 24, won his third major at The Open Championship, and Brooks Koepka, age 27, won his first at the U.S. Open. Throw in Thomas' PGA, and all of a sudden you have three (well) under-30 golfers taking three of the four majors in a season" (Porter, 2017). What it can be gathered from the results of these past majors and wins is that dominant younger golfers under the age of thirty continue to keep snatching up majors and PGA wins left and right.

Moreover, Jaacob Bowden of Golfwrx.com issued an article that focuses on the pattern of steady progression of lost driving distance that comes with age. 440 players' ages and driving distance averages were studied throughout the PGA Tour and broken up into five-year increments (Bowden, 2015). According to the findings, golfing pros specifically in their late 20s hit the longest drives and swing the fastest. The sharp decline and speed and distance are primarily shown when golfers hit age 50. However, this author believes there is a psychological factor to this sharp decline, because golfers who hit age 50 must start playing in the senior tours. Also, golfers who are in their 30s hit the average distance and speed of PGA Tours, so Bowden is claiming that golfers are most likely in their prime in their late 20s, start to peak in their mid 30s and bring the average down of the PGA Tours once they hit their 40s.

However, even with all these studies, there is still a penury of academic research articles that unquestionably addresses the belief that professional male golfers suffer a decline in performance as they age.

3. Method

The data used in this research were obtained from PGA.com, which is the official website of the PGA Tour. On this website, golfers are presented in order, based on leaders of each statistical category. Along with ranking tour leaders based on popular statistics such as driving distance, there is also the option of viewing every golfer's profile on the professional tour. On the player profile one can find recently updated individual statistics, which can be used to evaluate player performance in specific areas of the game such as driving accuracy, greens in regulation percentage, etc.

In this study, the population of the analysis included every professional golfer on the PGA Tour. Due to the size of the overall population, the researcher used a sample in order to analyze the performance of golfers based on their age during five seasons (2013-2017). This sampling selection style stayed the same during each analyzed season because of the unpredictable performance results of each golfer on that specific season.

The continuous variable was the male golfers' average score because one can assign a numerical value to the scores and measure them for each of the top 100 players over five seasons (2013 to 2017), while the categorical variable was the age range (20-29 years old, 30-39 years old, 40+ years old). Although the performance ranking of the golfer was used to gather the sample, their specific rank was not used when the test was employed. Instead, the author chose to compare the golfer's age range as well as scoring average for a specific season. By comparing their individual scoring results from the 2013 season through the 2017 season, the researcher can determine the role that age plays in affecting golf players' performance. Since there are one categorical variable and one continuous variable, the researcher ran an ANOVA test in order to answer the initial question of whether or not age affects a golfer's performance. An ANOVA is an analytical test to show if there is a statistical difference between a set of groups. Furthermore, the ANOVA's assumptions were tested by performing the Levene's test to check for homogeneity of variances.

4. Results

The *p*-value for the Levene's test was above the 0.05 threshold, which means that variances are equal and that further parametric tests such as ANOVA are well suited. The *p*-value for the ANOVA test was 0.1015, which indicates that age does affect how well a golfer performs when looking at average scores. Furthermore, looking at descriptive statistics the average score for each age group were within 0.1 point of each other (i.e., average scores between 70.39 to 70.51), which indicates that there are small numerical difference between the analyzed age groups (i.e., 20-29 years old, 30-39 years old, 40+ years old) in terms of performance (i.e., average score).

5. Discussion

This project tested whether age plays a role in the average score of professional golfers on the PGA Tour. The results point to the conclusion that age does not affect the performance (i.e., average score) of professional golfers. There was no significant difference in the scores recorded by players in their 20's, 30's and 40's, and therefore the researcher was able to draw the conclusion that age does not directly impact the performance of golfers on the

PGA Tour when those golfers were categorized in three age ranges (20-29 years old, 30-39 years old, 40+ years old). These results are not on par with what was suggested from past findings (e.g., Mills, 2005; Posnanski, 2015). In all of those aforementioned articles the authors assume golfers get worse with age or have a “peak” year or age range.

From a viewer perspective, especially when one is considering betting on professional golfers’ performance during tournaments, it is recommended that one does not bet on a player just because he is younger. This study has shown that the age range of a professional male golf player should not be a factor in the decision process. From a tournament perspective, a recommendation would be to change the age limit for the Senior Tour. Currently, the Senior Tour is only played by golfers 50 and older. Players in their 50s can still be capable of performing at the same level as younger players. Therefore, the belief is that the entrance age for the Senior Tour can be raised to 55 and older. Lastly, from a player’s perspective it is recommended that one should not stop playing just because of his age. Regardless of the young, incredibly talented players on the PGA tour, this study suggests that older players can also compete at the same high-caliber level.

6. Limitations

When analyzing the optimal age for golfers, a few limitations were encountered. One that was encountered here was that the focus was on the top 100 players over five seasons (2013-2017) at the end of each season. This means that only the best players from those specific years were looked at, which can skew the sample. Another limitation stems from this, which is that different players from year to year were looked at, since the top 100 fluctuates yearly. Not testing the same group of 100 over the five-year sample could lead to the results being skewed because a bad year from a player would be overlooked. Lastly, another limitation is that this analysis does not take other factors into account, like the increase in health technology and golf equipment. New healthcare techniques have extended the peaks of many golfers’ careers. Similarly, new and improved equipment has allowed for similar impacts on the golf game of older golfers. It is difficult to quantify the impact of these factors on the performance of golfers as they age.

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