

# The 'Clutch Gene' Myth: An Analysis of Late-Game Shooting Performance in the NBA

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## Abstract

This paper analyzes the clutch ability hypothesis, the ability to raise one's performance under pressure when it matters the most, throughout the 2008-09 and 2018-19 NBA regular seasons. Field goal, free throw and three-point shooting percentages are selected as the focus of the analysis and an extended list of players are included in the analysis. After an initial t-test showing an overall tendency to shoot worse at the end of close games, the binomial test is complemented with an adjustment factor to provide more realistic expectations for player performance in the clutch. While the analysis provides support for the existence of clutch performances as singular events, there is no evidence to imply a clutch ability that allows players to perform better at late-game shooting scenarios consistently. The analysis is complemented with a short discussion of why clutch reputation persists among fans and the media in contrast to repeated evidence against it in the academic literature.

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# 1 Introduction

Several of the greatest sports moments involve a miraculous play at the end of the game, or in other words, a 'clutch' moment. From Michael Jordan's game-winning buzzer-beater against Utah Jazz in the 1998 NBA Finals, named the greatest sports photo all time by Sports Illustrated<sup>1</sup>, to Kawhi Leonard hitting a series-clinching three-pointer that hits the rim four times before falling more recently in the 2019 playoffs, 'clutch' plays are highly valued in the memories as well as on the scoring column.

The term 'clutch' is used frequently in the sports media and it has been around for almost 100 years. On June 2, 1929, New York Times described a safe 'blow' by a baseball batter at an opportune moment with the term 'in the clutch' (Safire, 2005). While the origin of the term is in baseball, the notion spreads across sports and is even used in daily life. The term is not only used for a particular play at the end of the game but it can be an adjective for specific players that are believed to step up their performance when it matters the most. At the highest level of basketball, National Basketball League, several high-profile players like Michael Jordan and Kobe Bryant are considered clutch players. The reputation of being a 'clutch' performer is highly regarded and it can be the inspiration for players' nicknames. The most notable example is the logo of NBA himself, Jerry West, who was nicknamed 'Mr. Clutch' while there are more subtle nicknames like 'Dame Time' for Damian Lillard as it is said to be his time to shine at the end of games. On the other side of the coin, however, some players are branded as 'chokers' for performing poorly under pressure when their name is called.

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<sup>1</sup> <https://www.si.com/more-sports/2015/03/18/100-great-sports-photos-sports-illustrated-si>

The sports media go as far as describing this ability to perform better in clutch situations with the 'clutch gene' where some players just have it and others do not. If the 'clutch gene' is a reality, then recognizing it should be a top priority for teams as it would have important strategic consequences at the end of close games. Even if it is not a reality, however, the belief in the clutch ability itself has strategic consequences of its own as late-game personnel decisions would still be made according to those false beliefs. Besides the emotional benefits of a win for the organizations and fans, sports is a multi-billion dollar business and wins are important economically. Though, that side of the equation is not in the scope of this paper.

In this paper, I will analyze the late-game shooting performance across the 2008-9 and 2018-19 NBA regular seasons. I will compare the players' shooting percentages at the end of close games (aka 'clutch shooting' percentages) with their non-clutch shooting. Additionally, the main goal is not to just look if any player can improve their performance on any given game or even in a season, but to analyze if this 'clutch gene' exists where players consistently outperform themselves when it matters the most.

## **2 Literature Review**

Despite the extensive history of the term 'clutch' in the sports world, the academic research on the topic is fairly recent. In the literature, 'clutch' performance has been largely characterized as psychological in origin because they occur under pressure (M. P. Otten & Barrett, 2013). Hence, the studies divided into two with psychological experimental studies and empirical studies looking into data from the professional leagues. One of the most important aspects of either type of study is the definition of the term. While the definition of 'clutch' can vary greatly in daily life depending

on the context, from a mechanism in the car to a small bag, it means a critical situation at the end of close games where the outcome of the game rest on a few plays. However, that is not enough of a definition for the academics and the literature is not as certain on a definition. Schweickle et al. (2020) state that the 'definitions of clutch performance remain problematic' (p. 2). The ambiguity in the definition is expressed by several researchers. According to Seifreid and Papatheodorou (2010) 'clutch exists as a challenging concept which is inadequately defined in sport' (p. 92) while Swann et al. (2017) believe 'standard definitions of clutch performance may require refinement' (p. 2278). However, the definition of clutch performance by Otten (2009) as 'any performance increment or superior performance that occurs under pressure circumstances' (p. 584) is the most common definition in Schweickle e al.'s (2020) systematic review of the clutch literature where 27 peer-reviewed, original empirical research papers are analyzed. Yet, there appears to be ambiguity around this definition, too.

The analysis of clutch performance revolves around two main approaches: ability and episodic. Clutch performance as an ability assumes it is a characteristic for certain players, which makes it reproducible. 'Clutch gene' idea in the sports media is a reflection of this approach. Alternatively, clutch performance as an episode analyzes the performances as individual singular events and focuses on the performance itself rather than the ability. Schweickle et al. (2020) state that Otten's (2009) definition is the first time in the literature the definition is used for performance rather than ability. However, future research uses the same definition while looking at clutch performance over time. Otten & Barrett (2013) and Solomonov et al. (2015) use the definition when looking at clutchness on multiple performances in baseball and basketball respectively. The most interesting part here is Otten is the first author in one of the papers. Scweickle et al. (2020) conclude that it is not clear whether Otten's (2009) definition is exclusively episodic or also applies

to ability and continues to use clutch performance as an ‘umbrella term, incorporating both clutch ability ... and clutch episodes’ (p. 12).

Episodic research is largely conducted by the psychology literature, looking into the underlying aspects of the clutch performance. Traditionally, the focus has been on 'choking', the opposite of clutch where the performance decreases under pressure rather than increasing, with attentional theories like self-focus theories or distraction theories (Schweickle et al., 2020). More recently, Swann et al. (2017) propose a model where the clutch performance is underlined by a particular psychological state, 'clutch state.' However, the majority of research in Sweickle et al.'s (2020) review analyzes clutch performance over time, like throughout a season or a career.

In the beginning, the literature on ‘clutchness’ was based solely on baseball with the rise of sabermetrics, starting with Cramer (1977). Cramer found regression to the mean by the best clutch hitter's of 1969 Major League Baseball season the following year. Several studies in the field point to randomness for the occurrence of clutchness in baseball. However, there is still belief around some evidence of clutch ability by some researchers, even to the point of listing top clutch baseball players in the studies. So, Solomonov et al. (2015) believe discussion on the subject is far from over but 'the clutch effect is much smaller (if it does exist) than players and fans believe it to be' (p. 131). Of course, the study did not stay inside the diamond. It expanded to other team sports like basketball to individual sports like golf and tennis.

In basketball, Berri & Eschker (2005) looked at how NBA players perform in high-pressure playoff games compared to their regular season averages on a productivity index formula they created using regular box score statistics. They could not find a player who consistently performs better in the playoffs, and they found out that most players actually perform worse. One limitation of their paper, however, was the criteria of at least 10 playoff games for a player in a given

postseason, which eliminates a lot of players from teams who cannot at least make the second round of the playoffs. This requirement would limit the analysis to players at most from 8 teams in every season. Alternatively, Wallace et al. (2013) looked at individual playoff games and compared player performances in the fourth quarter to the previous three quarters in a given playoff game and could not find evidence for clutch performances. Solomonov et al. (2015), on the other hand, compared the last five minutes of close/tied games to the last five minutes of the first halves of the same games for pre-selected 'clutch players' by a panel of basketball experts during the 2005-06 NBA season. While they found that these players scored more at the end of close games, that was a result of taking more shot attempts rather than higher accuracy. I don't believe this 'doing more' by lead players of the teams, which was mostly the case for the players considered in the study, should not be considered as 'clutchness' as a higher usage rate is less of an indicator for performance under pressure than shooting percentages. Hence, in this study, I will look solely at shooting percentages for a span of 11 seasons for a large number of players from each season.

Furthermore, these studies offer behavioral heuristics for the belief in clutch players by the media and fans. Even though this is not the main focus of this paper, it is a good point of discussion that the clutch performance studies can expand to. Solomonov et al. (2015) suggested that this belief can be attributed to detecting clusters in random sequences even if it does not exist, which is connected to the representativeness heuristic, similar to the 'hot hand fallacy' literature. Alternatively, Berri & Eschker (2005) argues for confirmation bias, where NBA fans are likely to remember clutch moments for players they deem clutch and forget when they perform poorly under pressure. They recount the story of Michael Jordan's game-winner against Utah in the 1998 NBA Finals and argue that if Jordan shot at his regular season average of 47% rather than the 41% in that specific game, he would have made two more shots earlier that would erase the need for a last-

second game-winner. Wallace et al. (2013) support the confirmation bias argument, though no additional steps are taken to dive deeper besides the clutch performance analysis. I believe the same story can also support the availability bias. Rather than fans electing to remember clutchness and forget choking moments, the game-winner is generally more memorable than the miss or even the great performance before the last second of the game that satisfies the need for a game-winner. In *Soccernomics*, Simon Kuper and Stefan Szymanski (2018) argues that European soccer coaches prefer the corner kicks to be high and towards the penalty spot as the best corner kick strategy rather than low and fast balls in front of the goal because the former creates more spectacular goals that are memorable even though the latter generates more efficient scoring opportunities. That is a clear example of availability bias and the same may apply to clutch reputation.

### **3 Method**

This paper focuses solely on NBA for the basketball analysis due to the ease of access to the data and the volume of games in the regular season. NBA is also accepted as the highest level of basketball in the world. NBA's 82-game regular season is considerably higher than EuroLeague, the highest level of basketball in Europe. I used lay-by-play data provided on [eightthirtyfour.com](https://eightthirtyfour.com)<sup>2</sup>. For accuracy, the overall statistics from the data obtained on the website are compared to the official NBA.com. The website essentially provided the data scrapping that needed to be done, which is the ease of access to the data I mentioned, which was not readily available in other leagues around the world. From the play-by-play data, analysis is done around the shooting percentages.

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<sup>2</sup> <https://eightthirtyfour.com/data>

The regular box score stats of field goal percentage, free throw percentage and three-point percentage for players are compared within themselves.

One of the key elements of the analysis is the benchmarks used for clutch shooting. From the literature review, it is clear that these benchmarks are essentially arbitrary like the fourth quarter (Wallace et al., 2013) and last five minutes (Solomonov et al., 2015) of the games. In this paper, I replicated Solomonov et al., looking at the last five minutes of regular season games. Additionally, for the pressure requirement, I restricted the clutch shooting analysis to the moments where the score differential between the two teams was less than or equal to six points, which is the same requirement used by Solomonov et al. (2015). While being arbitrary, a six-point difference has a meaning as it is considered the higher limit of a two-possession game since the game can be tied with two three-pointers. Contrary to Solomonov et al.'s (2015) analysis, the clutch shooting percentages are analyzed against the respective player's overall non-clutch shooting averages, that is all the shots they take minus the clutch shots. Furthermore, the analysis includes 11 NBA regular seasons from 2008-09 to 2018-19.

The goal is to include as many players as possible but I had to set a benchmark cut point for the minimum number of plays a player has in the clutch to be able to eliminate the rare appearances from the analysis. For that arbitrary cut point, 55 plays were selected, which was the number of clutch plays Jaylen Brown, a former Cal Golden Bear, had during the 2018-19 season as a member of the Boston Celtics. Brown averaged 25.9 minutes per game and started 25 of 74 games he was available<sup>3</sup>. Those stats meant that he would be on the floor a fair amount at the end of games. The benchmarks resulted in 174 players having clutch statistics in the 2018-19 NBA

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<sup>3</sup> <https://www.basketball-reference.com/players/b/brownja02.html>



regular season, amounting to over 78% of plays in the clutch, which includes non-player plays like team rebound. 2014-15 season had the highest number of players in the analysis with 197 and 2019-10 season had the lowest with 108. In total, 514 players are included in the analysis.

The main analysis in this paper can be divided into two. First, I looked at the notion of performance under pressure throughout the league. Before looking at individual players, a t-test is used to compare overall clutch shooting percentages with overall non-clutch shooting percentages in each season as well as the 11 seasons combined in the data. On the other hand, I looked at players individually through a binomial test, using their non-clutch shooting percentages as the expected distribution. The binomial test makes sense here because if there is a clutch ability, then players should be able to perform differently and their successful clutch shots should not look like they are random draws from their non-clutch shots. Furthermore, an additional binomial test is conducted with players' non-clutch shooting percentages adjusted for overall average drop (or increase) in clutch shooting percentages (compared to non-clutch percentages) in the league in a given season. This adjustment was decided after the results of the first t-test analysis are seen. The reason behind such an adjustment is that if the expectation and the norm is a drop in performance in the clutch, a player whose performance does not drop (if it does not increase) in the clutch could and should be considered 'clutch' as well.

## **4 Results**

It is important to understand the general trend for performance under pressure in the NBA before diving deep into player-by-player analysis. The following analysis was initially part of the exploratory data analysis but it yielded interesting results. My expectation at the beginning was

not to see a lot of statistically significant values during the analysis as the literature review suggested and that is the case for 'clutch ability' for players, but more on that later. However, looking at overall performance throughout the league shows that NBA players experience a drop in shooting performance during the 'clutch' in certain areas. Table 1 shows the t-statistics and their respective p-values for field goal percentage, free-throw percentage and three-point percentage. Besides a row for each season in the data, 'ALL' and 'CAREER' rows look at 11 seasons combined and player averages combined in the dataset. Field goal percentages paint a clear picture that the shooting performance drop at the end of close games. Except for the 2017-18 season, the drop is statistically significant at 0.05 level and six out of 11 seasons are highly significant at 0.01 level. On the other hand, another on-field shooting percentage, three-point shooting, does not show the same trend at all. In any season, there is no significant change between the clutch and non-clutch three-point shooting performance. Additionally, in four out of 11 seasons, players actually increase their three-point shooting percentages in the clutch albeit it is not significant. The free-throw shooting performance looks a little more like the field goal percentage. While NBA players consistently worse in the clutch throughout the seasons, the drop is not consistently statistically significant. Only four out of 11 seasons are significant at 0.05 level, though ALL and CAREER are highly significant at 0.01 level. The free-throw percentage is a little different than on-field shooting as they can be taken in isolation where other factors like defense and shooting angle are not relevant. So, even a non-significant drop in performance might tell something, especially when the significant drops in field goal percentage are considered.

If I have to give a one-sentence response for the second part of the analysis, I would say clutch ability does not exist, at least in this particular data. That does not mean, however, clutch seasons do not exist. There are players who shoot better at the end of close games throughout a

particular season, but having a clutch season does not look to be indicative of such a performance later on. However, it is important to point out that the existence of clutch seasons suggests that clutch performances would occur in particular games as well. While it is not in the scope of this paper, it might be interesting to look if it is possible to predict clutch performances per game basis for a player when he has a clutch season. If a clutch regular season can be predicted per game clutchness in that season, that would have important consequences for playoffs.

**Table 1 – T-Test Results for Shooting Percentages in the NBA**

YEAR	FG%		FT%		3PT%	
	T-Statistic	P-Value	T-Statistic	P-Value	T-Statistic	P-Value
2019	-2.143345	<b>0.032782</b>	-1.960665	0.050729	-0.597601	0.550516
2018	-1.879123	0.060985	-2.538589	<b>0.011526</b>	-1.265638	0.206452
2017	-2.419147	<b>0.016036</b>	-2.016534	<b>0.044466</b>	-0.5276	0.598111
2016	-2.376822	<b>0.017968</b>	-0.803282	0.422336	-0.924073	0.356102
2015	-3.905727	<b>0.000111</b>	-0.570104	0.568936	-1.259052	0.208846
2014	-4.39907	<b>0.000014</b>	-0.439805	0.660324	1.825967	0.068712
2013	-3.484157	<b>0.00055</b>	-1.333506	0.183152	-0.833393	0.405207
2012	-2.995546	<b>0.002943</b>	-2.87514	<b>0.004298</b>	1.489478	0.137445
2011	-2.820388	<b>0.005147</b>	-0.630985	0.528576	-0.379093	0.704954
2010	-4.111367	<b>0.000056</b>	-0.661579	0.508953	0.090923	0.927653
2009	-2.571199	<b>0.010572</b>	-2.004013	<b>0.045886</b>	1.590033	0.11291
ALL	-9.870886	<b>0.000000</b>	-4.810524	<b>0.000002</b>	-0.100875	0.919656
CAREER	-3.978153	<b>0.000074</b>	-2.987098	<b>0.002883</b>	0.451991	0.651378

Note: Table 1 shows both t-statistics and corresponding p-values. Bold values signify significance at 0.05 level.

As can be seen in Table 2, while some players can have clutch performances in a season, that number is low, especially when compared to choking performances (statistically significant drops in clutch shooting percentages). In total, there are 25 instances where a player shoots statistically significant in the clutch while there are 109 choking. The number of clutch players per season is fairly consistent while there is more variation in choking. Furthermore, there are 17 clutch

and 101 choking for free throw and 38 clutch and 48 choking for three-point shooting. It makes sense from the previous part of the analysis that there are more clutch players and fewer chokers in three-point percentage than field goal and free throw.

**Table 2 – Number of Clutch and Choking Players in Shooting Categories According to Binomial Test**

Year	FG%		FT%		3PT%	
	# of Clutch Players	# of Choking Players	# of Clutch Players	# of Choking Players	# of Clutch Players	# of Choking Players
2019	2	9	1	9	4	3
2018	3	9	2	13	2	4
2017	2	12	3	9	1	4
2016	3	8	1	11	3	9
2015	3	12	3	5	7	6
2014	3	14	2	12	7	6
2013	4	16	0	10	5	8
2012	3	10	1	14	5	3
2011	1	5	2	4	1	2
2010	1	5	1	4	2	1
2009	0	9	1	10	1	2

Note: The above results are a number of players who have statistically significant (better or worse) performances in a given category in a season according to the binomial test. Table 2 does not show if a specific player is repeated through the years or not.

The main question, however, is if any of the players consistently among the few that perform better in the clutch in any given season. A closer look shows that is not the case. Anthony Davis is the only player who appears more than once for field goal percentage with two and he has seven seasons in the data. It should be noted that players need to have over 55 plays at the end of close games each season according to the benchmarks discussed in the Method section. In free throws, there are no players with more than one appearance. As expected, the numbers are higher for three-pointers but even in that area, there are only three players with two appearances and all

of them have over eight seasons in the data. So, it is not really possible to talk about the existence of clutch ability where players can consistently improve their performance.

**Table 3 – Number of Clutch and Choking Players in Shooting Categories According to Adjusted Binomial Test**

Year	FG%		FT%		3PT%	
	# of Clutch Players	# of Choking Players	# of Clutch Players	# of Choking Players	# of Clutch Players	# of Choking Players
2019	2	9	1	9	4	3
2018	3	9	2	13	2	4
2017	2	12	3	9	1	4
2016	3	8	1	11	3	9
2015	3	12	3	5	7	6
2014	3	14	2	12	7	6
2013	4	16	0	10	5	8
2012	3	10	1	14	5	3
2011	1	5	2	4	1	2
2010	1	5	1	4	2	1
2009	0	9	1	10	1	2

Note: The above results are the number of players who have statistically significant (better or worse) performances in a given category in a season according to the binomial test that is adjusted with the average difference in shooting percentage in that year.

On the other side of the picture, more people choke and more consistently. Nikola Vucevic appears three times out of seven seasons for having a worse field goal average in the clutch. Brandon Jennings appears four out of six times and it is four consecutive seasons from 2010-11 to 2013-14 in the same category. On the top of the list, however, is a shocking name. Kevin Durant, who is considered one of the greatest scorers in the history of the NBA appear leading five times (out of 10 seasons) and four throughout 2011-12 and 2015-16 seasons, except for 2014-15 season where he does not meet the benchmark because he could only play 27 games (Table 3). In the free throw category, four players (Rudy Gay, LaMarcus Aldridge, George Hill and James Harden) have three appearances with all of them having at least 8 seasons in the data. For three-point shooting,

the highest number of appearances in the choking column is also two like the clutch column but there are 6 players with at least 5 seasons in the data.

We know from the first analysis that on average, shooting percentages drop at the end of close games, especially field goal percentage. So, it makes sense to adjust players' percentages when conducting a binomial test, changing their expected averages by an adjustment factor. In this analysis, the average change in percentages for each category in each year is applied to each players' averages. As seen in Figure 1, this adjustment was negative for field goal and free throw percentages and all but 4 years in three-point percentages. This method was chosen for simplicity but a more complex adjustment factor can be used in further research. This adjustment leads to a substantial increase in the clutch performances in the data. There are 47 instances in field goal and 32 in free throw percentages, a factor of almost two compared to the initial binomial test results. This does not change per player results for field goal percentage, however, as Davis is still the only player with two statistically significant seasons. For the free throw category, Russell Westbrook leads the league with three significant seasons out of 11 while this performance can hardly be considered consistent. Will Barton and Andre Drummond follow him with two such seasons but Barton achieves this with three eligible seasons, which might require a further look into his performance. As expected, the number of instances does not have the same increase for three-point shooting, 38 to 55, and the highest number of instances for a single player is still two with five players achieving this feat, each with at least seven seasons in the data.

This increase in clutch instances due to the adjustment factor, of course, is coupled with similar drops in choking instances. Choking in field goal percentage drops to 53 instances, less than half before adjustment. Durant still leads the league but with only three out of 10 seasons this time. Jennings has only two out of six seasons and is joined by three other players with two choking

seasons. The drop is smaller for free throws and three-pointers. There are 66 instances (compared to 101) for the free throw category with Gay and Hill not affected at the top of the list with three and Aldridge and Harden dropping to two. In three-point shooting, there are only 29 with only three players having 2 choking seasons and all have more than seven years in the data. So, from the results, it is clear that there is no consistency in clutch performances for specific players that would imply the existence of 'clutch ability.' Choking results are slightly less conclusive and would require further research since choking is not the main focus of the analysis.

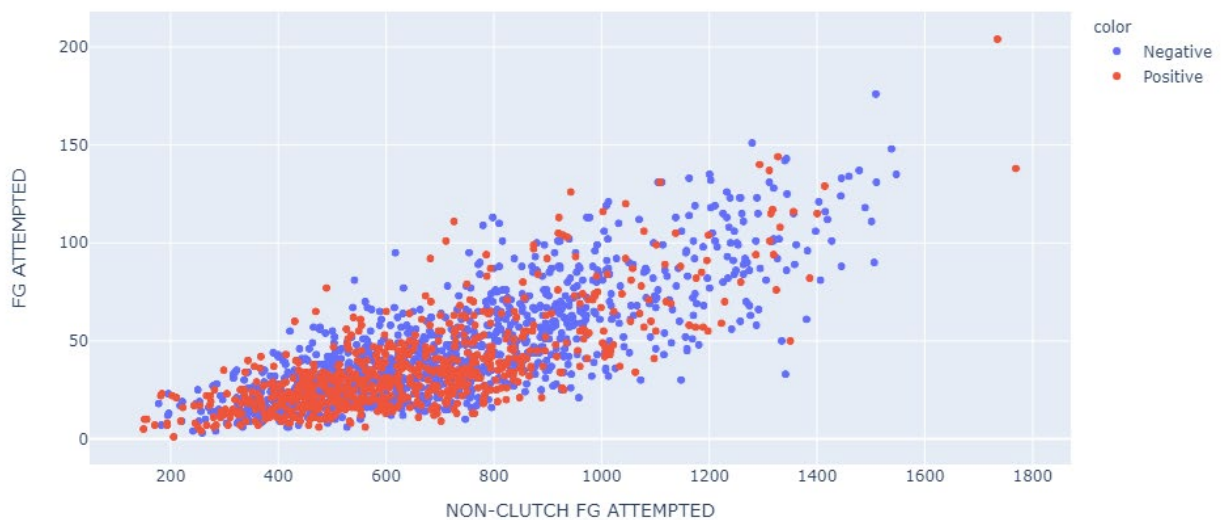
## **5 Discussion**

The findings in this paper are aligned with the literature as statistical analysis of professional players consistently fails to provide proof for the existence of clutch ability. Even if there is a psychological 'clutch state,' that seems to be related to the moment and it is not specific to a player or can be achieved consistently at will. One of the main targets of this paper was extending the analysis to a larger sample of players. Elite players usually get the reputation of being clutch in the media and I think if the clutch ability exists, that should not be limited to just the best of best players in the world. After all, if clutchness is an ability, a character trait, then it can be present on any of the NBA players as they are the top players in the world anyway. So, I tried to include a large number of players. Doing so, one concern was the small sample sizes for certain players. Figure 1, however, shows that shooting better or worse than their average in the clutch is mixed regardless of how many field goal attempts are taken.

Furthermore, a potential confounding factor for the drop in shooting performance is the level of defense. As the end of a game nears and the outcome is uncertain, it can be expected that

the defensive effort will increase. Solomonov et al. (2015) found evidence of increased effort on offense in analysis in terms of 'doing more' and while the defense argument needs further analysis itself, it is not an odd argument. Possible confounding of defense on field goal percentage, however, would have an effect on three-point percentage as well, which is not the case. Additionally, free throws are defenseless attempts and there are significant drops in that category as well throughout the years.

**Figure 1 - Field Goal Shooting Performance with Clutch and Non-Clutch Attempts**



Note: Figure 1 illustrates how players are scattered across according to the number of clutch and non-clutch attempts they had over seasons. Color code shows that shooting more or fewer attempts does not necessarily determine shooting better or worse in the clutch than the non-clutch averages.

Looking at certain players generates arguments against clutch ability as well. For example, Davis has both a negative and a positive significant season in three-pointers besides his field goal percentages that are mentioned before. Furthermore, Danny Green paints a completely different picture and possibly a separate argument that can be looked at further. Green has two seasons where he shot significantly worse both in field goal and three-point percentage (2012 and 2013). Those are the first two seasons he is in the data. This might suggest a learning curve for shooting under pressure that might be interesting to look at. Of course, further research into the topic can



include more advanced stats like true shooting percentage, which accounts for field goal, free throw and three-point percentages together not individually, or more advanced statistical methods trying to predict shooting performance under pressure given previous performances.

## **6 Conclusion**

Extending the clutch ability analysis to include a fair share of the players in the NBA throughout 2008-2019, it is safe to conclude the clutch ability does not exist, or at least players do not display it at the end of close regular season games. In the first part of the analysis, however, the t-test shows that the overall shooting percentage in the clutch is dropped for field goal and free throw shooting. The underlying reason for the no change in three-point shooting would be an interesting focus for further research. Due to this overall drop in performance, the binomial test is coupled with an adjustment factor to adapt the shooting expectations in the clutch with the average change. With or without the adjustment factor, the binomial test does not point to any particular player as 'clutch.' Even though clutch performances occur as singular events, they are not tied to particular abilities possessed by certain players. With repeated evidence against clutch ability in the literature and again in this paper, an interesting further research would be looking at the underlying reasons why clutchness is still widely believed by the fans and the media.

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