Athletes’ Playing Style to the Influence of Their Performance in Snooker Games

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Abstract. This paper mainly empirically studies the performance of various types of snooker players in the game, and how the performance will affect the outcome of their games. Through the data analysis of the top 32 snooker players in the world, this paper believes that snooker players with special skills will perform better in the game, and they must play out their own style. It found that both offensive players and defensive players perform better in games than all-around players. In light of these findings, all-round players can specialize in an offense or defense, which will help their skills and games.

Keywords: Athletes’ Playing Style; Influence of Their Performance; Snooker Games; Defensive; Offensive.

1. Introduction

Luca Brecel's unique talent and uncharacteristically calm performance under pressure proved to be a decisive factor in the outcome as he defeated Mark Selby 18-15 to become the first continental European player to win the World Championship.

The Belgian, 28, became the 22nd man to lift the prestigious trophy at the Crucible and the fourth non-British man to win the World Championship after Cliff Thorburn of Canada, Ken Dacherdy of Ireland and Neil Robertson of Australia. It is worth noting that Brecel had never won a match at the Crucible before this tournament, with his first five appearances here having been straight first-round exits.

In the first round of 2023, Brecel also nearly lost, but he eventually defeated Ricky Walton 10-9, and his first win at the World Championships also inspired him to move on to bigger goals. Following his victory over O'Sullivan, Brecel overcame a 5-14 semi-final deficit to win 17-15, completing the biggest comeback in Crucible history. On the last day of the competition, Brecel continued his good form. In a spectacular third stage, Brecel hit four shots to break 100, extending his lead from 9-8 to 15-10, and withstood Selby's all-out attack in the final stage to win.

It was Brecel's fourth ranking title and his second of the season, having started the season by winning the Champions League. The £500,000 payday was the highest prize money of his career to date and took him from 10th to second in the world rankings behind O’Sullivan.

For a player who was recognized as a "child prodigy" as a teenager, especially after a video of him shooting 147 in practice appeared on video sites, his road to the top has been long and winding. At the age of 17, Brecel became the youngest player to make his debut at the Crucible, but it took him another four years to break into the world’s top 32. The Tour was difficult - a lot of people outside Brecel's inner circle thought it would be hard to make it to the top unless he moved from Belgium to England. His family, especially father Carlo, made huge sacrifices in terms of time, travel and finances to make his career flourish.

Tonight's result was their reward, and Brecel did it his way. He never considered moving to England, and he also drove back to Belgium overnight between tournaments to spend time with his new girlfriend Laura. He still insisted on not practicing, and five minutes before the first stage of the final, Brecel arrived on the court. A proper coach would have told him that everything he was doing was wrong, but he found a way to do what all players are trying to do, not to be held back by fear.

As we know, snooker players can distribute to two kinds of type: offensive players and defensive players. While they are both play snooker, there is a huge difference between the styles when they play snooker. There is a typical example which is Ronnie O’Sullivan and Mark Selby. We all know...
Selby’s style of play is extremely slow and disturb others mentality. However, O’ Sullivan coincidentally is a grumpy person whose style of play is very fast. Because these two people have completely opposite styles of play, when these two people meet in a game, they are like enemies. In 2020 World Snooker Championship, Selby had to think for a long time about very simple balls, and did snooker to disturb O’Sullivan’s mindset. Selby's move angered O’Sullivan. When Selby played snooker again, O’Sullivan chose to solve the ball vigorously. That is, it doesn't matter where the ball goes, it’s a game of luck. But this game is important for both. Selby felt that he shouldn't be so big, and such a vigorous solution did not respect him. But O’Sullivan was lucky in this game and finally won. When the round was over, O’Sullivan dropped his club and left the court. It is dissatisfaction with Selby thinking too long. This caused Selby to think that O’Sullivan did not respect him, and the game was not pleasant (WSC, 2020). So when a golfer encounters this kind of player whose style is very different from his own, should he change his style of play to deal with him? The goal of golfers is to win. It depends on whether you are sure about the changed style of play.

When snooker players meet different styles of their counterparts, what impact will their playing differences have on their performance? Different styles mean meeting offensive players, defensive players or all-around players. What the difference means is whether they will change their play style because of the opponent's style. Performance means whether they have played to their true level after changing their style of play, and their mentality and confidence will be affected by changing their style of play.

However, whether to change the style of play is debatable. Those snooker players don't know whether changing their style of play can improve their winning percentage or whether changing their style of play is beneficial to them or will inhibit their performance. Because we all know that snooker players play according to what they are good at (Pui et al, 2021). If they change their style of play, it is equivalent to playing something they are not good at, so they have a great risk in this way. They know what kind of play to use against what kind of players, but this kind of play is not necessarily what they are good at.

When it is effective for snooker players to change their playing style, it will greatly improve their winning rate. Because changing the style of play restricts the performance of the opponent, the opponent cannot perform at his own level. That will have a great advantage in the trend of the snooker games (Matthew et al. 2014). When a snooker player changes his style of play, it is counterproductive, and the probability of winning the game is greatly reduced. Because when snooker changed the way of play is likely to limit their play, but also greatly enhance the performance of opponents. That will have a huge disadvantage in the trend of the snooker games (Matthew et al. 2014).

Existing snooker studies are few and simple, as snooker is not a very popular sport. The number of people playing this sport is relatively small compared to other sports such as football and basketball. So the attention to this sport is also insufficient, few people have done in-depth research on this sport. The existing research is basically about some technical analysis. There is no analysis of the players' performance after changing the style of play. There is plenty of room for further research.

There are lack of study about the athletes’ Characteristics to the Influence of Their Performance in Snooker Events. Existing studies focus on other sports games like football, basketball and badminton. In my opinion, the effect of characteristics on performance is actually very important. Because if you do it, you can greatly improve the winning rate. This paper is specifically about snooker and what happens to a player's performance and winning rate if they change their style. No existing research has looked at my topic, and this is the first one which would be great for snooker players.

2. Hypothesis

In this past season, "confused" has become an inescapable keyword. The top players who have excelled in the past few seasons have all fallen into a slump. "Seventy-five three Jers" are rare in a season, only the rocket to the top of the crown in the crown can be strong support; Robertson had a
winless year with a selective competition strategy; Selby and Trump are still regulars in the final, but their fluency and dominance have deteriorated significantly.

At a time when top players are generally down, Mark Allen has come up strong and had a pretty dominant season; Milkins and Carter had a string of brilliant victories later in their careers. Two other good "veterans" - Bingham and Hawkins left the top 16 after lackluster seasons, and we don't know if they will have a chance to return.

All this seems to remind us of the snooker world from 2005 to 2007. In that era, the career of the "four kings" at that time fell into volatility, so that the post-80s players, as well as a large number of role players, saw the opportunity, the hope that was bred in the chaos at that time.

In 2023, we see a similar picture again, with the top players' form never adjusting well. Given the 'Seven five Three' age of 47, perhaps only O'Sullivan has enough room to perform in the future, Williams and Higgins are truly nearing the end of their careers. Selby, Robertson and Murphy are also 40 years old, and there is a question mark over how long their prime will last; So who will fill the remaining niches? The World Championships have given us the answer - young players who are going forward.

Second, the stage of "new players". In 2023 world Championship, Shi Jiahui, with the world ranking of 80, successfully reached the semifinals and nearly reached the final, becoming the center of attention. More importantly, he is not yet 21 and this is only his first tour of the Crucible. Of course, for Sijia Hui, the lack of defensive ability is very obvious, but we can still be excited about his surprising offensive performances. Vaguely, we seem to see the kind of "irrational" attack of Trump in 2011 - the ball that most players will not choose, will not try, is the goal of Sijia Hui. The 21-year-old has been a huge surprise for us, and with every victory he has won since the first round, he has written a piece of history - especially in the shadow of the "betting case".

In that epic semi-final, Sijia Hui was defeated by the eventual champion, Breacher. We can also not ignore that Brechel is a player born in '95, which is also relatively young. The silkiness of his attack and power since his debut is beyond the existence of ordinary players; After steadily improving her defense over the course of the two seasons, Breacher finally became a regular finalist, and at the age of 28, she lifted the World Championship trophy.

The offensive players, such as Sijia Hui and Breacher, have created a trend in a game where defence and counter-attack are the main themes - albeit briefly. But we already know that new players will challenge those seemingly unbreakable laws and charge to the higher reaches of snooker. Hopefully, in the next decade, the attacking era of snooker will return.

Three, change and unchanged. Snooker is changing and the most important thing for us is that next season, the game will be back in China. In 2023, the first half of next season, there will be at least two ranking events (the Wuhan Open and an international championship whose location has not yet been decided), plus the Shanghai Masters; In the rumor, another potential ranking tournament will be held in Guangdong, the date of the tournament is not yet determined; And the return of the China Open doesn't look far away.

At the same time, we know that the WST is still driving the landing of high profile events in the Middle East, and snooker's global scale beyond its 2019 peak is just around the corner.

In the promotion of the tournament, China's reserve snooker players occupy a dominant position in comparison with the same age group. Although the twists and turns of the "gambling case" once made the domestic snooker wind evaluation turn sharply, but this still can not stop the sudden emergence of our young players. It can be predicted that 10 years later in the snooker world, Chinese players are destined to be quite an influential force.

The change of snooker is slow, so that the "familiar faces" we have seen for more than a decade are still the same group of people, and even people have a kind of "static" illusion; But a closer look reveals that it is indeed changing, just as our lives are slowly changing. In life, in the face of regret, we will repeatedly comfort ourselves "there is still a chance"; And in snooker, we constantly say "there's still a chance" as if everything is going to be stable. But in fact, with the passage of years, the opportunity may never return, until finally become a beautiful dream.
Because they changed to a different style of play, which happened to be something they were not good at but contained the opposition. If the switch style switch is successful, it will have a crushing performance against the opponent (Gal 2009). But if the player changes the style and the player doesn't adapt to the style, it can backfire and have a very negative effect on the player's performance. Hypothesis 1: The playing style of different snooker players has a differentiated impact on their performance.

Snooker is a very technical sport, often referred to as the "art of snooker". In the competition, in addition to the technical level, the player's use of strategy and psychological quality is also very important. In this paper, we will focus on the use of strategy in snooker games.

First of all, the game of snooker has a very significant feature is that the rules of the game are very strict. For example, in snooker, if a player hits the white ball into the bag, or the opponent's ball into the bag, it will result in a loss of points. Therefore, in this case, the player must be very careful to play the game.

Secondly, in snooker, players need to hit the ball to get their ball into the bag smoothly. In this way, throughout the game, players usually use some special strategies to make their ball can be smoothly into the bag, and can block the opponent.

For example, when the player's ball is pressed very tightly by the opponent, the player can choose to use some special playing methods to hit the ball to the safe zone next to the opponent's ball, so that the opponent can not easily continue to attack their own ball. In this case, the player will pay special attention to protect their own ball, while trying to block the opponent's attack, which is a very important tactic in the game.

In addition, the choice of offensive opportunities is also an important strategy. In the game, players need to always pay attention to the score of both sides, as well as the distribution of both sides of the ball. Once it is found that the opponent's ball distribution is unfavorable, or the opponent's score is not high, the player can choose to start the attack. In the process of attacking, the player will try to get his ball into the bag as much as possible in order to increase his score as much as possible.

Finally, psychological quality is also one of the keys to determine the outcome of the game. In the competition, the players face not only technical problems, but also psychological problems. Therefore, players must have a certain psychological quality, in order to be able to maintain a calm and focused state in the fierce competition.

In short, the use of strategy in snooker is very important. Players need to take different strategies according to the situation of the game to get better results. At the same time, players also need to maintain a good psychological quality in order to maintain an optimal state in the game. In the future competition, I believe that the experience of using these strategies will make the players further.

Hypothesis 2: Compared with Offensive and Comprehensive snooker players, defensive snooker players get higher score per capital in the competition than the others.

As the saying goes, offense is the best defense, there is no wall in this world. So it's hard to guard a player who can attack very well (George 1799). If the player is very good at attacking, you may not be able to play as soon as the player opens. So offensive players tend to have a stronger initiative.

Oke, the average shot in 25 seconds, but Yan Bingtao is relatively slow. After the world snooker has the statistics of the rod, it seems that no drastic measures have been seen. If snooker is really going to speed up, it's going to take something serious to the real grinders. For example, 20% of the ranking bonus will be deducted at the end of the season for the world ranking if the average time of the season is more than 30 seconds (note that the players are not fined or taken out of their wallets, but 20% will be deducted when calculating the money ranking), 50% will be deducted if the average time of the season is more than 30 seconds, The idea was for those players who were playing very slowly to either pick up their speed or leave Snooker as soon as possible to make room for more players. Similar measures can be applied to players who average 25 seconds or more, such as a 5-10% deduction and 10-20% deduction for the second consecutive season. It only works if it touches real interests.
Mark Selby often takes long exams. In this year's World Championship, when the master exam was nearly 3 minutes, he was warned by the referee. For this, the current world snooker gives the referee too much discretion. There should be different competition formats, and World Snooker should introduce clear limits on the time and number of long tests, and there are corresponding penalties for exceeding them, such as awarding a negative set.

As for the tactics of the master, whether it looks good or not, it depends on the opinions of different people. Mark Selby's skills and tactics can be said to be a strange landscape in the snooker world. At least from the perspective of existing rules, there is nothing wrong with that. Some people say that Mark Selby's skills and tactics have hindered the development of snooker, but if from another perspective, it can also be said that Mark Selby's skills and tactics have enriched the connotation of snooker. Using the winner to describe Mark Selby can also be praised or condemned. Snooker is, first and foremost, a competitive sport in which players seek to win and lose without reproach. In every sport, there are winners like this. In Go, there are excellent attackers, but also eight wind immovable stone Buddha, football has a gorgeous offensive team, there are specialized in defense and counterattack teams. In terms of character, Mark Selby is the most professional professional player.

A master will not hinder the development of snooker; What should hinder the development of snooker is the rules, formats or mechanisms that have not changed for thousands of years and cannot keep pace with The Times. To make snooker faster, higher and stronger, and more popular with young people, the key is to change the existing rules, formats or mechanisms of snooker. Just like the Snooker rule, the rule of each shot or pocket in the single time game should be accelerated in other snooker events, any rule that fouls the opponent to get the free ball can also be promoted, or the rule of foul and miss really needs to be changed, such as three strokes can not be cleared, the opponent gets the free ball in the hand, which will make snooker speed up. The factors that affect the progress of the game will be greatly reduced; Increases the difficulty of defense, but the benefits of good defense will also be amplified.

If you really want to do something about the master, then think about this problem from the rules mechanism of snooker, and put forward feasible and operational suggestions and measures.

When a player meets a different style of opponent. Can you decide whether to change the style to fight with the opponent? Change the style is not good at themselves but it is the restraint of the opponent. So it's a big question whether we can do that. It's up to the players to decide if they want to change their strategy (James 2021 ). Hypothesis 3: Individual strategy has mediating effect on the effect of individual style on performance.

The opponent's style of play can also have a big impact on a player's performance. No matter the players’ style is offensive or defensive, they may have restrained themselves or they may have been restrained by their opponents.
Hypothesis 4: Opponent's style has mediating effect on the effect of individual style on performance.

3. Methodology

3.1 Method

This paper use statistical analysis. It refers to a research method to understand and reveal the interrelationships, changing rules and development trends of things through the analysis of the quantitative relations such as the scale, speed, scope and degree of the research object, so as to achieve the correct interpretation and prediction of things. Everything in the world has two aspects: quality and quantity. When we understand the essence of things, we must master the law of quantity. At present, mathematics has penetrated into all fields of science and technology, making science and technology increasingly quantitative. The popularization and application of electronic calculation, the improvement and development of measurement design and calculation technology have formed a quantitative research method, which has become an indispensable research method in natural science and social science research.
Statistical analysis is to use mathematical methods, establish mathematical models, conduct mathematical statistics and analysis on all kinds of data and materials about leaders obtained through investigation, and form quantitative conclusions. Statistical analysis method is a modern scientific method widely used at present, and it is a more scientific, accurate and objective evaluation method. There are many specific application methods, among which the index scoring method and chart evaluation method are widely used in practice.

Statistical analysis method is based on the historical data of enterprises and the level of similar enterprises, and uses statistical methods to determine the standards of all aspects of enterprise management.

3.2 Data

The data used in this research comes from the WST website: https://wst.tv/#newsletter-signup. It includes the personal information of the top 32 players in the WST World Snooker Championship this year, including average score, world ranking, age, number of champions, single-stroke breaks, winning percentage, and average stroke time. The samples this paper have collected are at the worldwide level. The top 32 snooker players are Mark Allen, Mark Selby, John Higgins, Ding Junhui, Anthony, McGill, Tom Ford, Stephen Maguire, Fan Zhengyi, Ronnie O'Sullivan, Luca Brecel, Judd Trump, Neil Robertson, Shaun Murphy, Kyren Wilson, Mark Williams, Robert Milkins, Jack Lisowski, Gary Wilson, Hossein Vafaei, Ricky Walden, Zhou Yuelong, Joe Perry, Matthew Selt, Ali Carter, Ryan Day, Stuart, Bingham, David Gilbert, Jimmy Robertson, Noppon Saengkham, Chris Wakelin, Joe O'Connor.

In order to measure the difference among player’s individual styles, we divide the top 32 snooker players into three kinds of styles: offensive, defensive and comprehensive based on their playing strategy (stroke times in a game).

The detailed information of top 32 snooker players in 2023 World Snooker Championship is as below in Table 1:
4. Empirical Result and Discussion

4.1 Results

The empirical results are as below:

First is the empirical results of average score per capital. We found the defensive style of snooker players have the highest average score per capital than offensive and comprehensive styles. Offensive style of snooker players is the second highest and comprehensive style of snooker players is the lowest.

We can see that defensive players occupy the advantage in this aspect, indicating that the scoring ability of defensive players is not worse than that of offensive players. And a little higher. Offensive players ranked behind defensive players, offensive players scoring ability is still OK. The lowest per capita rating is given to all-rounders, probably because of the erratic nature of offense and defense.

The Figure 2 shows which types of players score the most goals. We can see that it's the attacking players, it seems that the attacking players are more likely to win. Defensive players are not bad, just a little worse than offensive players. The worst is the all-rounder. An all-rounder means that no one trait stands out. I guess you have to play your game. Otherwise the chances of winning are slim.
The Figure 3 shows the world rankings of various types of players, with those who are closer to 0 ranking higher. At the top of the average world ranking must be attacking players, because there are many top players who are attacking players, such as the well-known O'Sullivan. Then there are the defensive players, and the defensive players also have many masters to help them move up the rankings, such as Selby and Higgins. The average world ranking of all-rounders is the lowest, firstly because there are few all-rounders, and no one is a very top player who is all-rounder.
Figure 3 Average World Ranking of Different Playing Styles

Figure 4 shows the average 100+ Breaking Times by three types of players. Surprisingly, the tallest is not an offensive player, but a defensive player. It seems that defensive players’ ability to surround the ball and score is very strong. Offensive players are about 40+ times lower than defensive players. The scoring ability of offensive players is very strong, especially O'Sullivan and Trump have topped the list in the number of breaks in a single stroke. All-around players have the weakest ability to break hundreds in a single stroke.

Figure 4 100+ Breaking Times of Different Playing Styles

Figure 5 shows the average number of championships for each type of player, with the defensive players winning the most championships on average. Players who look at defensive players are top masters who win championships. Offensive types get less on average than defensive types. I think it may be that there are some top offensive players and some are relatively low-ranking, which pulls down the number of championships won by offensive players. All-around players average the fewest championships. It can be seen that there are really few all-round top players who can win the championship.

Figure 5 Average Number of Championships by Different Playing Styles
Figure 5 Average Championship Title of Different Playing Styles

Figure 6 is the average age of various players. The average age of defensive players is the lowest, and they are all relatively young. The average age reached 37. The average age of offensive players is slightly older than defensive players, about 37.75. The oldest is the all-around player, with an average age of nearly 40 years old.

Figure 6 Average Age of Different Playing Styles

Figure 7 is the average probability of winning for each type of player. Defensive players are all top players, so the winning rate ranks first, with a winning rate of about 62%. The average winning percentage of offensive players is not bad, about 61%. Because there are top and bottom-ranked offensive players, the average rank of offensive players may not be as high as we think. The lowest winning percentage is the all-around player, about 54%.
Figure 7 Average Winning Rate of Different Playing Styles

Figure 8 is the average shot time for various types of players. Offensive players clearly had the shortest average shot times. It shows that offensive players play decisively and are not sloppy at all. The average shot time reached 21.5s. The average shot time of an all-around player is about 22.75, which is not too slow. Defensive players have the slowest shot times. It may be because they need a long time to think about how to defend the ball best. The average shot time reached 24s.

Figure 8 Average Time to Stroke of Different Playing Styles

4.2 Discussion

It is worth noting that offensive ability is not equal to scoring ability, and the offensive level here first represents a player's ability to win a shot. Of course, a player who wins by making several decisive hand shots and scoring separately is also an offensive player.

Therefore, maybe the best defense is offensive, but the interesting thing is: in the face of those who are good at offensive players, "the best offensive is not necessarily defense", there are many classic battles have fully proved this theory.

The current 1202-stroke hundred, "fastest 147", 15 full scores, mastered "left-right fighting" in pursuit of the ultimate "artistic" attack, the most offensive player in the past and present, is O'Sullivan.
Mark Williams always expressed his free-spirited thinking with his natural and unrestrained temperament. The "unbelievable" accuracy and goal line allowed Williams to complete one "impossible task" after another.

The most practical offensive player is certainly Stephen Hendry, whose motto is "Don't make mistakes". When he can hit more than 80 points in every inning and give the opponent no room to reverse, his ability to "monopolize" the championship can be imagined. Arbitrary white-ball stops, unmatched and foolproof stroke lines, a determined and incredibly consistent rhythm of strokes, and think about why Higgins is called the Wizard.

There are also "active shooters" - Barry Higgins and Jimmy Trump are examples of players who are absolutely active shooters. They sometimes have no motivation to shoot at all, and even if there is a "theoretical" shot path, they sometimes will get it done. Chinese players Zhao Xintong and Thai players Suchaya are obviously "active" offensive players, they can be reckless, but they just "can't not attack". "Australian Thunder" Neil Robertson's precise line of attack is still a leading offensive player today.

Lisowski's white-ball control is still not at his best, but his offensive rhythm and relatively appropriate transitions are enough to allow him to grow and become one of the most offensive players. Luka Brecel must now be listed as one of the most offensive players. The ecstatic playing attitude, the aggressive playing style, the gorgeous and quick stroke style, all are embodied by the new World Championship winner Brecel in 2023.

Selby and Murphy both make the "defensive" list, with Selby being extremely balanced on both ends of the pitch. So his stability and efficiency on offense cannot be underestimated, while Murphy, who has changed his style many times, has always been offensive in nature.

Who is the "least good" offensive player? It is indeed retired Peter Alberon, who is indeed a defensive player and not an offensive player, but he also won the 2002 World Championship and reached the final again in 2006. When he played Hendry in the 2002 World Championship final, he went almost unscored in many games but won the final separately.

In all, snooker is really a sport full of "strategy, tactics and competitive willpower".

5. Conclusion and Policy Suggestion

This paper provides new evidence on the impact of various types of snooker players on their game performance. In other studies on snooker, there is no specific research on the division of different styles of snooker players for their performance. This paper uses a table to count the data of the current top 32 players in the world. These data are then used to derive the performance of various styles of players to see how the various styles of players affect their performance.

Through these results, some policy and strategy implication could be raised. First of all, in all statistics, comprehensive players are undoubtedly the worst. So it recommends comprehensive players to try to develop their own strengths, which can specialize in offense or defense. In this case, it may have an advantage over the comprehension in the game.

Secondly, many snooker players now tend to develop into offensive style, but their results are not so optimistic. So it suggests that they make their offense more refined and practice more. Practicing the offense well is still very effective in helping the performance of the snooker competition.

But there is also some limitations of this paper. The data in this paper is not very sufficient, and only the data of the top 32 players in the world are taken. It would be better if more data were taken with more players. Moreover, this paper refers to 2023 World Championships for the performance of players. If more data from more games are used, the data will be more accurate. In all, this study could be a starting point for exploring the availability of the snooker players' competition strategy to their performance and their degree of correlation.
References


