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Math 1372

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With regards to Brook's articles he speaks on several real life examples on how statistic and probability can influence our decision and actions. Brook's first article "The Philosophy of Data" where he demonstrates several examples and argues against what are the causes of a "hot hand" in basketball and how students learn with different teaching techniques. The second article by Brook's "What Data can't do?" basically talks about how in some cases statistics is not enough to base your decision on, instead you must recruit to other things like emotions. Both article argue slightly different things to begin with the first article argues that a player does not go through a hot streak but rather the probability of his shots being good are based on his shooting percentage and how statistics and probability is useful. The second article explains that in some cases statistics and data is not the only factor you must consider you must also look at other outside factors like emotions and several others.

To illustrate the point Brook's is trying to get across we will use the example of a basketball player having a hot streak and demonstrate how in reality a hot streak does not really exist. There are several other factor we must consider before assuming the player is having a hot streak or hot hand. Brook's argues that a player doesn't have a hot hand but rather it based on his shooting percentage. According to an article on the *BBC* website where it cites research which was done in a Hebrew University in Jerusalem where they examined over 200,000 shot attempts from about 291 leading players in two NBA seasons. From the footage they observed they came to the conclusion that if a player made one 3-pointer he would be more likely to attempt another three point because making a shot is like a positive reinforcement to the player. But also found that when a player makes his first shots he is more likely to miss his next attempted shot and that the player who missed his first shot is more likely to be affected by it throughout the game. We can see that once a player makes a few consecutive shoot he is highly motivated to shoot the ball because he has a certain confidence that his shoot will go into the hoop but his shoot in not guaranteed to go in it really based on his statistics. While a player who has missed his previous shoots will always look to pass instead of him shooting the ball. His shooting percentage is one few things that play a role in a players hot hand.

Besides a players talent of shooting a basketball we must also take into consideration that like anybody the player can have an off day caused by an injury or issues in their personal lives.

For example let's take a well known NBA player Kobe Bryant he recently had a sprained ankle normally a player would sit out for about 3-6 weeks. Kobe Bryant a well known player for playing with injuries only sat down for two games then came back and didn't score the ball once. In this case we can see how sometimes an injury can prevent a player from playing to his true potential; a player who averages 27.7 point per games due to an injury was held to zero point for the first quarter then sat the rest of the game out because of his injury. "It really just continued to swell and I couldn't put any weight on it, so I called it a night" According to Huffington Post. A player who has only been scoreless 15 times throughout his career was set back due to the injury he faced. In this case this injury affected the player that he wasn't able to shoot the ball to his true potential. This is why we cannot always assume a player is having a hot hand or has gone cold in a game because some players play through with injuries. Also we do not know what is going on in a player's life which can also affect his way of playing basketball.

Although it may seem that a player is having a hot hand or has gone cold in a game we never really know what is affecting his game rhythm. According to BBC website it also states that if a player misses their jump-shot or a three pointer they are more likely to make their next attempt shot. Therefore we cannot always assume there in a hot streak or cold slump, let's take an example of a Denver Nuggets player Ty Lawson who had made all ten 3-point attempted and then later attempted his 11th shot but missed. Another player after the game had a few comments on Ty Lawson he stated "A guy's hot like that, you've got to feed him the ball." As we can see some players actually believe in the myth of having a hot hand, when you're actually in the court playing basketball you really do not pay much attention to statistics you're focused on winning the game. A player does not think about statistics behind their shot but they do look for the best possible shot that can be created by their teammates. To go back to the example from before where Lawson missed his 11th shot it was because of a wild shot that he attempted several feet behind the three point arc. We can that in some cases players think they are having a " hot hand" so they get carried away and make crazy attempts that have very little possibility of going in.

To conclude we can state that in most real life situation we can use statistics to help use obtain a solution to our problems. In most cases we do not see how statistics can relate to our problems but if we look closely there tied with some sort of statistic. Like in the case of basketball and the possibility of the players shot going in. Whether or not we use it to our benefit that's up to us, but there a handful of situations where we must take other things in to consideration because sometimes it's not enough to base them on pure statistics.

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