

# GAMBLING, LUCK AND SUPERSTITION: A BRIEF PSYCHOLOGICAL OVERVIEW

BY MARK GRIFFITHS

For what is generally accepted as almost endemic to many a gamblers' disposition - the ideas, practices and responses that combine gambling, luck and superstition - there has been surprisingly little scientific research in this field. As an indication of what can be undertaken subsequently, an intriguing picture emerges of how this affects players' character and motivations as gamblers according to the type of gambling engaged, including its relationship to chance and skill.



**G**ambling, luck and superstition have long been inextricably intertwined yet there has been surprisingly little empirical research. Luck has a mysterious quality and the degree to which people believe in it has profound personal, political, and financial outcomes (Griffiths, 2006).

Historically, luck was considered a gift of the gods, to be given or withheld at their whim. Despite the relative lack of research, there are countless everyday examples of the association between gambling and luck including the use of lucky charms to the expression of lucky phrases. In fact, it could perhaps be argued that there are not many gamblers who don't subscribe to some sort of belief in fortune.

Nowadays, despite statistical laws governing coin tossing, dice throwing, or the spin of the roulette wheel, many gamblers still believe the odds can be overcome by having "Lady Luck" on their side.

So why is that the case? At a very basic level, regular gamblers simply want a winning edge. For this reason they may often enhance their personal power through the use of amulets, charms, and even ritual spells to bring favour to their chosen behaviour. Charms, amulets, and talismans abound in virtually all civilisations ancient and modern, testifying to the long history of the human effort to control chance by magical and symbolic means.

As already noted, the science and psychology of luck have received relatively little empirical attention. Over 20 years ago, Wagenaar and Keren (1988) noted that the notion of causelessness is so alien to us that, in the absence of a known cause, we tend to attribute events to imaginary causes like luck and chance. Being lucky and winning while gambling is often perceived as very similar.

**GAMBLING RESEARCH**

Furthermore, in the minds of many people, luck and chance often seem to act as real causes. Such notions are defined in terms of absence of knowledge on which the prediction of future events could be based. The throw of a dice, the spin of a slot machine or roulette wheel, are considered to be chance events because there is insufficient knowledge to predict the outcome – not because they have no physical causes.

Probability is another way of expressing the absence of prediction knowledge. It suggests that chance operates as a fair and balanced distributor that produces all possible outcomes with equal frequencies in the long and short run. This promotes the ‘gambler’s fallacy’ in which people expect the laws of probability in a large population to be represented in much smaller populations. This has been investigated under many different guises from a psychological perspective including the representativeness principle (Kahneman & Tversky, 1972), the law of small numbers (Tversky & Kahneman, 1971), the sequential response bias (Wagenaar, 1972), and subjective randomness (Wagenaar, 1970).

When people experience long winning or losing streaks while gambling they then evoke what they believe to be a second causal factor – luck. While luck tends to even itself out over the long run, people naturally focus on the short run and on their fluctuations. Because gambling involves randomness, people will often blame or chalk up their luck to some random event that coincided with how they fared at a certain gambling session. A lucky person is someone who wins many times in succession. The same will happen when it is a gambler’s lucky day with their lucky number, lucky colour, lucky table and/or lucky dealer. Most of these ‘lucky’ events are little more than ‘illusory correlations’ such as noticing that the last three winning visits to the casino were all when the gambler wore a particular item of clothing or it was on a particular day of the week (Griffiths, 1994).

In short, “good luck” brings longer sequences of winning and “bad luck” brings longer sequences of losing. People tend to assume that these winning or losing streaks are operating independent of chance. Taken from this perspective, luck and chance are two different but occasionally interfering causal factors that influence events.

Research carried out in the 1980s by Wagenaar and his colleagues (Wagenaar, Keren & Pleit-Kuiper, 1984; Keren & Wagenaar, 1985; Wagenaar & Keren, 1988) consistently showed that luck and chance were not the same thing. When gamblers were asked to assess the degree to which the outcome of a gamble is determined by chance and skill they found it almost impossible until a third dimension of luck was introduced. For instance, Wagenaar and colleagues studies have asked participants to assess how much chance, skill, and luck is involved in casino gambling and football score prediction. The same question was also asked in a more recent study of bingo playing by Griffiths and Bingham (2005). The results of the three studies are presented in Table 1.

Wagenaar and Keren (1988) concluded that casino gambling is perceived as involving more luck than the prediction of football scores. Their research also indicated that people believe luck cannot be forced. A person has to wait for luck to happen suggesting that it is similar to chance. However, a person must utilise their luck wisely when they get it (e.g., the person must be aware that it is their lucky day) suggesting that it can also be similar to skill. The special

**Table 1: How much skill, chance and luck are involved in casino gambling, football score prediction and bingo?**

|  | Chance | Skill | Luck | Participants |
|--|--------|-------|------|--------------|
| Casino Gambling<br><small>(Keren &amp; Wagenaar, 1985)</small>           | 18%    | 37%   | 45%  | 22           |
| Football Score Prediction<br><small>(Keren &amp; Wagenaar, 1987)</small> | 27%    | 44%   | 29%  | 104          |
| Bingo<br><small>(Griffiths &amp; Bingham, 2005)</small>                  | 27%    | 0%    | 73%  | 412          |

nature of luck explains why it is difficult to attribute gambling outcomes to chance or skill only.

Once people believe that an abstract concept such as luck can (in principle) influence behaviour, gambling situations provide all the conditions for strong luck perceptions. The fundamental difference between chance and luck is that chance is determined by outside factors over which a person has no control, whereas luck may provide at least the illusion of control (Langer, 1975). In essence, the difference may be interpreted as a reflection of the amount of perceived control. People cannot influence their luck directly, but given a certain disposition of luck, a person may have the ability to utilise it.

**LUCK AND GAMBLING**

In our everyday experience it can seem that some people “have all the luck” and others appear to be jinxed. Lucky people manage to be in the right place at the right time, meet the right people, and go from one success to another. An infamous story reported by Galaxine.com (2003) highlights that luck is often about being in the right place at the right time. It recounts the story about the waitress at a Las Vegas casino who won \$35m during her lunch break. She won the largest slot jackpot payout ever, after playing for about 15 minutes. However, only three months later, her car was hit by a drunk driver who had 17 previous arrests for drunk driving. She was seriously injured and her older sister was killed in the accident. This time she was in the wrong place at the wrong time.

Wiseman (2003) believes he’s discovered four principles of luck and knows how to help people improve their good fortune (see Figure 1). The results of this work reveal that people are not born lucky. Instead, lucky people are unconsciously using four basic principles to create good fortune in their lives. These can also be applied to gambling situations. Wiseman’s research has involved him being with those who define themselves as either lucky or unlucky, and examining the reasons why. Wiseman started by asking randomly chosen UK shoppers whether they had been lucky or unlucky in several different areas of their lives including their careers, relationships, home life, health and financial matters. Of these participants, 50 percent considered themselves lucky and 16 percent unlucky. Those lucky or unlucky in one area were more likely to report the same in other areas. Most experienced either consistent good or bad fortune. Wiseman therefore concluded that luck cannot simply be the outcome of chance events.

**>> ONCE PEOPLE BELIEVE THAT AN ABSTRACT CONCEPT SUCH AS LUCK CAN (IN PRINCIPLE) INFLUENCE BEHAVIOUR, GAMBLING SITUATIONS PROVIDE ALL THE CONDITIONS FOR STRONG LUCK PERCEPTIONS. THE FUNDAMENTAL DIFFERENCE BETWEEN CHANCE AND LUCK IS THAT CHANCE IS DETERMINED BY OUTSIDE FACTORS OVER WHICH A PERSON HAS NO CONTROL, WHEREAS LUCK MAY PROVIDE AT LEAST THE ILLUSION OF CONTROL. IN ESSENCE, THE DIFFERENCE MAY BE INTERPRETED AS A REFLECTION OF THE AMOUNT OF PERCEIVED CONTROL. PEOPLE CANNOT INFLUENCE THEIR LUCK DIRECTLY, BUT GIVEN A CERTAIN DISPOSITION OF LUCK, A PERSON MAY HAVE THE ABILITY TO UTILISE IT. <<**

**Figure 1: The four principles of lucky people (Wiseman, 2003)**

Principle One: Maximise Chance Opportunities

Lucky people are skilled at creating, noticing and acting upon chance opportunities. They do this in various ways, including networking, adopting a relaxed attitude to life and by being open to new experiences.

Principle Two: Listening to Lucky Hunches

Lucky people make effective decisions by listening to their intuition and gut feelings. In addition, they take steps to actively boost their intuitive abilities by, for example, meditating and clearing their mind of other thoughts.

Principle Three: Expect Good Fortune

Lucky people are certain that the future is going to be full of good fortune. These expectations become self-fulfilling prophecies by helping lucky people persist in the face of failure, and shape their interactions with others in a positive way.

Principle Four: Turn Bad Luck to Good

Lucky people employ various psychological techniques to cope with, and often even thrive upon, the ill fortune that comes their way. For example, they spontaneously imagine how things could have been worse, do not dwell on the ill fortune, and take control of the situation.

So can "lucky" people win at gambling without trying? Wiseman tested this proposition by getting 700 people to gamble on the UK National Lottery. The "lucky" participants were twice as confident of winning as the "unlucky" ones. Results showed that only 36 participants actually won any money, and these were split evenly between the two groups. On average, all participants lost about £2.50. Wiseman showed that being lucky doesn't change the laws of probability.

Being in the right place at the right time is actually about being in the right state of mind. It's been claimed that lucky people use body language and facial expressions that other people find attractive. For instance, lucky people smile twice as much as the unlucky, and engage in more eye contact. In addition, they are more likely to have a broad network of friends and take advantage of favourable opportunities (Griffiths,

2006). As Wiseman (2003) demonstrated, they can't beat the odds playing the lottery, but lucky people do expect good fortune.

Lucky people view misfortune as short-lived and overcome it quickly. In short, self-fulfilling prophecies appear to affect lives. Those who expect to fail may not even try. Lucky people try to achieve their goals even when the odds are against them. Unlucky people are more superstitious and twice as likely to believe that black cats, breaking a mirror, and the number '13' are bad omens (Griffiths, 2006). Luck is simply a mind-set and a way of perceiving and dealing with life. Wiseman (2003) concluded that luck is not a magical ability or a gift from the gods. It is a mind-set, a way of perceiving and dealing with life.

Gamblers are great believers in luck. Wagenaar (1988) found that gamblers are so wedded to their belief in luck that in some circumstances they refuse to improve their odds. For instance, in the game of blackjack, there is a well-known optimal strategy for not losing. But in order to win over the long run, a gambler must count the cards that have been played and calculate whether more high or low cards are left in the deck. More high cards favour the player, so gamblers should increase their bets; more low cards favour the house, so gamblers should decrease their bets. However, Wagenaar's research demonstrated that the vast majority of players do not do this.

Many gamblers also appear to be superstitious and possess a variety of erroneous beliefs; for instance, that other players can influence their luck in the game. They appear to reject the mathematics of probability and chance with almost mantra like thoughts such as "This is my lucky day," "My luck has to change," and "This number has to win." Griffiths' research has consistently shown that slot machine players have favourite slot machines (e.g., Griffiths, 2002). In North America, there are anecdotal reports by casino operators who complain that hard core slot machine players urinate into the plastic coin cups or onto the floor rather than leave a machine they are convinced is about to pay out a jackpot.

Finally, an experimental study by Wohl and Enzle (2003) compared people who had just experienced a near big win with people who had just experienced a near big loss to see which type would be more likely to continue gambling. They found that the answer depended on whichever gamblers felt personally luckier. Players who experienced a near big loss on a wheel-of-fortune wagered significantly more money on the outcome of a subsequent game of roulette than did those players who experienced a near big win. They concluded

## GAMBLING RESEARCH

**>> CAN "LUCKY" PEOPLE WIN AT GAMBLING WITHOUT TRYING? THIS PROPOSITION WAS TESTED BY GETTING 700 PEOPLE TO GAMBLE ON THE UK NATIONAL LOTTERY. THE "LUCKY" PARTICIPANTS WERE TWICE AS CONFIDENT OF WINNING AS THE "UNLUCKY" ONES. RESULTS SHOWED THAT ONLY 36 PARTICIPANTS ACTUALLY WON ANY MONEY, AND THESE WERE SPLIT EVENLY BETWEEN THE TWO GROUPS. ON AVERAGE, ALL PARTICIPANTS LOST ABOUT £2.50. WISEMAN SHOWED THAT BEING LUCKY DOESN'T CHANGE THE LAWS OF PROBABILITY. <<**

that people who nearly lost everything (but didn't) felt luckier than those who nearly had a big win and that this was an indication to persist in subsequent gambling.

### SUPERSTITION AND GAMBLING

According to Vyse (1997), the fallibility of human reason is the greatest single source of superstitious belief. Sometimes referred to as a belief in 'magic', superstition can cover many spheres, such as lucky or unlucky actions, events, numbers and/or sayings, including a belief in astrology, the occult, the paranormal or ghosts (Jahoda, 1971). However, perhaps a working definition within our Western society is that of Thalbourne (1997) who said superstition could be "a belief that a given action can bring good luck or bad luck when there are no rational or generally acceptable grounds for such a belief" (p.221).

It has been suggested that approximately one-third of the UK population are superstitious (Campbell, 1996). The most often reported superstitious behaviours are (i) avoiding walking under ladders, (ii) touching wood and (iii) throwing salt over one's shoulder (Campbell, 1996). There is also a stereotypical view that there are certain groups within society who tend to hold more superstitious beliefs than what may be considered the norm. These include those involved with sport, the acting profession, miners, fishermen and – of course – gamblers. Many studies have been undertaken using self-report methods. However, participants may be unwilling to publicly admit to their private beliefs due to a fear of being ridiculed or considered irrational.

This contradiction between what individuals say and do has been investigated by Campbell (1996). He concluded that the majority of the population have 'half-beliefs'. He suggests that people are basically rational and do not really believe in the effects of superstition. However, in times of uncertainty, stress, or perceived helplessness, they seek to regain personal control over events by means of superstitious belief.

One explanation for how we learn these superstitious beliefs has been suggested by Skinner's (1948) work with pigeons. While waiting to be fed, Skinner's pigeons adopted some peculiar behaviours. The birds appeared to see a causal relationship between receiving the food and their own preceding behaviour. However, it was merely coincidental conditioning. There are many analogies in the human world - particularly among gamblers. For instance, if a gambler blows on the dice during a game of craps and subsequently wins, the superstitious belief is reinforced through the reward of winning (this is another example of an 'illusory correlation'). Another explanation is that as children we are socialised into believing in magic and superstitious beliefs. Although many

of these beliefs dissipate over time, children also learn by watching and modelling their behaviour on that of others. Therefore, if their parents or peers touch wood, carry lucky charms and do not walk under ladders, then children are more likely to imitate that behaviour and some of these beliefs may be carried forward to later life (Vyse, 1997).

Darke and Freedman (1997) suggest that lucky events are, by definition, determined entirely by chance. However, they go on to imply that although most people would agree with this statement on an intellectual level, many do not appear to behave in accordance with this belief. As mentioned above, Wagenaar (1988) proposed that in the absence of a known cause we tend to attribute events to abstract causes like luck and chance. He differentiated between luck and chance and suggested that luck is more related to an unexpected positive result whereas chance is related to surprising coincidences (Wagenaar, 1988).

Weiner (1986) suggests that luck may be thought of as the property of a person, whereas chance is thought to be concerned with unpredictability. Gamblers appear to exhibit a belief that they have control over their own luck. They may knock on wood to avoid bad luck or carry an object such as a rabbit's foot for good luck (Darke & Freedman, 1997). Langer (1983) argued that a belief in luck and superstition cannot only account for causal explanations when playing games of chance, but may also provide the desired element of personal control.

So are gamblers superstitious? Given the common sense view that gamblers are, there is surprisingly little empirical research. A study by Griffiths and Bingham (2005) examined the beliefs that bingo players have regarding superstition and luck, and how these beliefs are related to their gambling behaviour. A self-completion questionnaire was devised and the study was carried out in a large bingo hall in Nottingham. Their sample comprised 412 bingo players (approximately four-fifths being female). Significant relationships were found in many areas. Many players reported beliefs in luck and superstition, however, a greater percentage of players reported having 'everyday' superstitious beliefs, rather than those concerned with bingo.

More specifically, it was reported that 81 percent of bingo players had at least one superstitious belief. Such beliefs included not opening an umbrella indoors (49 percent), not walking under ladders (55 percent), not putting new shoes on a table (60 percent), touching wood (50 percent) and not passing someone else on the stairs. However, only 10 percent of the sample claimed they were superstitious while playing bingo (with a further 13 percent claiming they were "sometimes" superstitious while playing). This was reflected in such behaviours and beliefs as having a

GAMBLING RESEARCH

lucky night of the week (5 percent), having a lucky friend (4 percent), having a lucky mascot (6 percent), sitting in the same seat for luck (21 percent), believing certain numbers are lucky or unlucky (13 percent), and changing pens or 'dobbers' to change bad luck (29 percent). Furthermore, 27 percent of players believed in winning and losing streaks, 25 percent always or almost always read their horoscopes, and 57 percent believed in fate (i.e., that life is already mapped out for them). Superstitious beliefs were also associated with astrological beliefs. In general, those who were believers in astrology were more likely to be superstitious than non-astrological believers.

When compared with lighter spending bingo players (i.e., those who spent less than £20 per week on bingo), heavy spending bingo players were more likely to believe in fate, be more superstitious while playing bingo, be more likely to have a lucky friend, be more likely to have a lucky seat, and be more likely to believe that some numbers are lucky/unlucky although none of these were significant at the 1 percent level. When compared with light spenders, heavy spending bingo players were significantly more likely to be superstitious, believe that the number '13' is unlucky, have a lucky friend, sit in the same seat for luck, and believe in astrology.

The percentage of players reporting superstitious beliefs

when playing bingo was much less by both sexes than the percentage reporting everyday superstitions. This possibly seemed surprising after the initial findings that the majority of players considered bingo to be 'a game of luck' and the high percentage holding everyday superstitions. However, it may simply mean that contrary to previous opinion (Langer, 1983; Darke & Freedman, 1997), many do not try to control that luck, or at least not by means of superstitious belief. However, it may have been the case that players did not consider that going on the same night with the same friends, or sitting in the same seat were associated with luck, but merely part of a 'familiar' social routine.

The fact that a higher percentage of players reported having the superstitious belief concerning the 'different pens' possibly implies that the other beliefs chosen were not an ideal representative sample. However, very few players offered alternative suggestions when asked on the questionnaire to give examples of 'other' superstitious beliefs. King (1990) suggested that players' use of superstitious strategies in order to win implies skill and thus having some degree of control over the outcome of the game. However, in this case, bingo players did not report using these superstitious strategies. This could imply that it is more 'instant' beliefs that players have, rather than anything 'concrete' or 'pre-planned'. They may not often consider



## GAMBLING RESEARCH

whether they are superstitious or not, and the fact that they were asked suggests the demand characteristics may have actually effected how they replied.

Only one significant result regarding superstitious beliefs when playing bingo was found, that a greater percentage of heavy spenders stated that they always sat in the same seat for luck. Although not significant, 35 percent of heavy spenders – as opposed to 18 percent of light spenders – reported that they were, at least sometimes, superstitious when playing bingo. It was also found that a lesser percentage of the heavy spenders stated they had superstitious beliefs when playing bingo. It is clear that a large percentage of players reported beliefs in luck and superstition. However, findings were varied with a far greater percentage of players reporting everyday superstitious beliefs than those concerned with bingo. Whether or not players believed they had control over luck cannot be conclusively stated and having superstitious beliefs is perhaps simply part of the thrill.

This article highlights that there has been very little empirical research into gambling, luck and superstition and that there is much scope for future research. Gambling, luck and superstition do seem to be inextricably linked but research indicates that luck and chance are not the same. Furthermore, those that describe themselves as lucky people are no more likely to win while gambling than those who describe themselves as unlucky. **CGI**

### REFERENCES

- Campbell, C. (1996). Half-belief and the paradox of ritual instrumental activism: a theory of modern superstition. *British Journal of Sociology*, 47, 151-166.
- Darke, P.R. & Freedman, J.L. (1997). Lucky Events and Beliefs in Luck: Paradoxical Effects on Confidence and Risk-Taking. *Personality and Social Psychology Bulletin*, 23, 378-388.
- Galaxine.com (2003). Luck and lucky breaks – Are they really lucky? [http://www.galaxine.com/galaxine\\_lucky\\_breaks.htm](http://www.galaxine.com/galaxine_lucky_breaks.htm) (last accessed January 12, 2011).
- Griffiths, M.D. (1994). The role of cognitive bias and skill in fruit machine gambling. *British Journal of Psychology*, 85, 351-369.
- Griffiths, M.D. (2002). Gambling and Gaming Addictions in Adolescence. Leicester: British Psychological Society.
- Griffiths, M.D. (2005). Luck's familiar. *Inside Edge: The Gambling Magazine*, 21, 75.
- Griffiths, M.D. & Bingham, C. (2005). A study of superstitious beliefs among bingo players. *Journal of Gambling Issues*, 13. Located at: [http://www.camh.net/egambling/issue13/jgi\\_13\\_griffiths.html](http://www.camh.net/egambling/issue13/jgi_13_griffiths.html) (last accessed January 12, 2011).
- Jahoda, G. (1971). *The Psychology of Superstition*. Middlesex: Penguin Books.
- Kahneman, D. & Tversky, A. (1972). Subjective probability: A judgment of representativeness. *Cognitive Psychology*, 3, 430-454.
- Keren, G. & Wagenaar, W.A. (1985). On the psychology of playing blackjack: Normative and descriptive considerations with implications for decision theory. *Journal of Experimental Psychology: General*, 114, 133-158.
- Keren, G. & Wagenaar, W.A. (1987). Temporal aspects of probabilistic predictions. *Bulletin of the Psychonomic Society*, 25, 61-64.
- King, K.M. (1990). Neutralizing marginally deviant behavior: Bingo players and superstition. *Journal of Gambling Studies*, 6, 43-61.
- Langer, E. (1975). The illusion of control. *Journal of Personality and Social Behavior*, 32, 311-328.
- Langer, E.J. (1983). *The Psychology of Control*. London: Sage.
- Skinner, B.F. (1948) "Superstition" in the pigeon. *Journal of Experimental Psychology*, 38, 168-172.
- Thalbourne, M.A. (1997). Paranormal belief and superstition: How large is the association? *Journal of the American Society for Psychical Research*, 91, 221-226.
- Tversky, A. & Kahneman, D. (1971). The belief in the 'Law of small numbers'. *Psychological Bulletin*, 76, 105-110.
- Vyse, S.A. (1997). *Believing in Magic: The Psychology of Superstition*. New York : Oxford University Press.
- Wagenaar, W.A. (1970). Subjective randomness and the capacity to generate information. *Acta Psychologica*, 33, 233-242.
- Wagenaar, W.A. (1972). *Sequential Response Bias: A Study of Choice and Chance*. Rotterdam, The Netherlands: Bronderoffset NV.
- Wagenaar, W.A. (1988). *Paradoxes of Gambling Behavior*. London: Erlbaum.
- Wagenaar, W.A. & Keren, G. (1988). Chance and luck are not the same. *Journal of Behavioral Decision Making*, 1, 65-75.
- Wagenaar, W.A., Keren, G. & Pleit-Kuiper, A. (1984). He multiple objectives of gamblers. *Acta Psychologica*, 56, 167-178.
- Weiner, B. (1986). *An Attributional Theory of Motivation and Emotion*. New York: Springer-Verlag.
- Wiseman, R. (2003). *The Luck Factor*. New York: Hyperion.
- Wohl, M.J.A. & Enzle, M.E. (2003). The effects of near wins and near losses on self-perceived personal luck and subsequent gambling behavior. *Journal of Experimental Social Psychology*, 39, 184-191

### MARK GRIFFITHS



Dr Mark Griffiths is a Chartered Psychologist and Professor of Gambling Studies at the Nottingham Trent University, and Director of the International Gaming Research Unit. He has spent over two decades in the field and is internationally known for his work into gaming and gambling. He has published over 250 refereed research papers, three books, 65 book chapters and over 1000 other articles. He has served on numerous national and international committees and gambling charities (e.g. National Chair of GamCare, Society for the Study of Gambling, Gamblers Anonymous General Services Board, National Council on Gambling). He has won ten national and international awards for his work including the John Rosecrance Prize (1994), CELEJ Prize (1998), Joseph Lister Prize (2004) and the US National Council on Problem Gambling Research Award (2009). He also does a lot of freelance journalism and has appeared on over 2000 radio and television programmes.