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# Luck and Risk

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## Luck and Risk

On December 30, 2006, a pickup driver on State Route 59, Utah, lost control over his car, probably speeding. The car broke the guardrail, flipped over a drainage outlet, and landed on all four wheels outside the road facing the wrong direction. A close-up photo, originally published by CNN and later displayed on several internet sites, showed the car precariously balanced on the hillside (Mikkelson and Mikkelson 2007). In a subsequent study (Teigen 2011), this picture was shown to a large class of students who were asked to evaluate five headlines: “An unlucky driver”; “An unusual U-turn”; “With the guardrail as springboard”; “Incredible luck”; “Can thank higher powers”. All suggested headlines were rated on scales from 1 to 10. The *guardrail as springboard* received the highest mean score (6.87), but interestingly, *incredible luck* (5.71) was rated much higher than *an unlucky driver* (2.61). After all, the driver had only suffered minor injuries in this dramatic event.

The class was then presented with another, bigger picture of the same event. A photo taken from a distance showed that the truck is standing on the edge of a 200 feet vertical drop. The sight of the abyss made the audience gasp, and when allowed to revise their headline ratings, the students gave *incredible luck* top scores ($M$ = 8.48), closely followed by *can thank higher powers* ($M$ = 8.02).

The morals to be drawn from this little experiment are threefold: (1) An ‘incredibly lucky’ event is not necessarily attractive, or pleasant. One can safely assume that the driver on State Route 59 wished the accident had never happened. (2) The ‘luckiness’ of an event is crucially dependent upon what did *not* happen, rather than the factual circumstances. Both pictures showed the same factual outcome of the accident, but the second picture made the counterfactual appear far more disastrous and perhaps more salient. (3) When luck intensifies, the step from luck as accidental to luck as magical becomes a small one. Higher powers (God,

fate, guardian angels) are summoned in matters of life and death (Pepitone and Saffiotti 1997), and, curiously enough, they tend to arrive on the scene in the last minute, just in time for saving lives, but too late to prevent the accident from happening. It appears, in line with the previous point, that what matters is not so much that lives are saved, but that death is imminent (Pritchard and Smith 2004).

In what follows, I will develop these three observations further, drawing on results from psychological research that examines under which circumstances people are inclined to describe themselves or others as lucky or unlucky. In this chapter we are not concerned either with the reality of luck or with how the concept should ideally be used and understood, but how this term (and its cognates) is used in daily life and in everyday language.

From the opening example and other experimental findings, it appears that luck attributions are particularly frequent in situations involving *risks*. This is based on two central features, which will be examined in turn below, namely the contrastive nature of luck, and the prominence of close counterfactuals in risky situations. People are lucky when an outcome turns out better than one might have feared. The third theme to be developed in this chapter is how people make sense of such events that takes place seemingly outside one's control. Should they be regarded as random, or is there an element of personal or even magical causality involved?

**Something worse could have happened**

We examine in this section the contrastive nature of luck (Driver 2012). Events are not lucky or unlucky just in and by themselves, but in comparison to a counterfactual or hypothetical outcome that did not occur. When people consider themselves 'lucky,' they always have such alternative possibilities in mind. They compare themselves to other people (those that are 'not so lucky'), or to how their own life would have been 'if not for …'. In

other words, they imagine what has been called *downward counterfactuals.* If they compare themselves *upwards*, to more enviable others or to something that could have turned out better 'if only …,' they might feel unlucky and will speak of their bad luck.

In the simplest case, events are contrasted with a neutral baseline or default, as when an unexpected gift, a lottery prize, a job offer, or a romantic proposal arrive 'out of the blue.' In such case, the "worse" counterfactual alternative is no gift, no prize, no offer, no proposal, or in other words: business as usual, an uneventful life. Such incidents, where people are surprised by an obviously nice event that did not have to happen, could be called instances of *pure* luck. Similarly, losses and accidents that clearly represent a negative deviation from normalcy, with which they are compared, can be considered pure bad luck. In these cases, the contrasting counterfactuals are often not highlighted, but implied.

But other cases are more mixed, by allowing bad events to be compared with something even worse (and sometimes, good outcomes to be contrasted with outcomes that are even better). In the face of risks and threats, preservation of the status quo can be turned into a lucky event. People will describe a drunk driver as lucky to avoid a collision and a fare dodger fortunate by not to be caught by a ticket inspector. Once the damage is done, as with the driver in our opening vignette, one might think that the consequences could have been dramatically worse, making actual accidents appear lucky. Lucky individuals in the media often come in this category, as can be testified by YouTube videos of so-called "lucky people", "lucky drivers", and even "the world's luckiest squirrel" (surviving a 100mph run-in with a Lamborghini). Use of the term luck to describe such happenings might appear paradoxical, but follow the same logic. Both pure luck and mixed luck incidents compare what happened to a potentially worse alternative, which might be status quo (in the pure case) or something still worse (in the mixed case).

Health personnel conducting open-ended, in-depth interviews with Norwegian tourists coming back from South East Asia after the 2004 tsunami disaster were surprised to find that nearly all (90.6%) interview protocols contained terms designating good luck, often several times in each open-ended interview. In contrast, only five instances of bad luck concepts were found, mostly describing the plight of other people (Teigen and Jensen 2011). In a follow-up study two years later, more than 95% said they had been more lucky than unlucky, the remaining 5% expressed a mix of both. What appeared, from people at home, as the most unlucky Christmas holiday imaginable, became for the survivors a series of lucky coincidences, because it was for them so easy to imagine something even more catastrophic. Their stories were replete with counterfactual statements. "Just incredible luck that we did not live somewhere on the beach" (as originally intended). "This is what we are left with: What *could* have happened. Because we were so insanely lucky when the wave came" (p. 52).

Similar results were obtained from interviews of residents affected by bushfires in Australia (Erikson and Wilkinson 2017). Nearly all of them (85%) included spontaneous, unsolicited references to good luck, with a mean of 3.05 occurrences per interview. Such terms were almost ten times more frequent than references to bad luck (or bad fortune).

One might think that those least afflicted saw themselves especially lucky. True enough, participants in the tsunami study had all survived. But those most directly exposed to the disaster used the term "lucky" twice as often than those who had been less affected. The bushfire study included "lucky" residents who had their houses burned. In both these studies, nearness to complete disaster was more important than actual damage.

To simplify, people appear (and feel) lucky whenever they obtain an unexpected gain, or when they avoid an expected loss. In this context expected does not mean foreseeable, as counterfactual successes or disasters can be *postcomputed,* (Kahneman and Miller 1986), that is, imagined post hoc, as the full picture unfolds and more details of the situation become

known. To quote one tsunami survivor: “It became only worse and worse. One felt luckier and luckier all the time” (Teigen and Jensen 2011: 52).

On this background, even good luck experiences can become a mixed blessing. For all we know, “pure” and unequivocal good luck experiences might be less frequent than the mixed ones, as nice events are less effective in instigating counterfactual thinking (Roese, 1997). This contrasts with Rescher’s (1995) claim that good and bad luck by definition represents “a good or bad result, a benefit or a loss. If X wins the lottery, it is good luck; if Z is struck by a falling meteorite, that is bad luck” (p. 32). Now these are pure cases. But in the same author’s opening chapter, good luck is illustrated by a very mixed case--namely, the non-bombing of Kokura in World War II. This Japanese city was the original target of the second atomic bomb. But due to accidental weather conditions: haze over Kokura, the bomb was dropped over Nagasaki instead. “And what was an incredible piece of good luck for the inhabitants of Kokura turned equally bad for those of Nagasaki” (Rescher 1995: 3). Here we have an incredible piece of good luck in a city where nothing happened out of the ordinary.

Luck stories in the media are often of the mixed kind. The Croatian music teacher Frane Selak (n.d.) has been called “the world’s luckiest man” after cheating death seven times (before winning in the lottery). The same honorary title has been bestowed on Tsutomu Yamaguchi (n.d.), who survived both Hiroshima and Nagasaki. Anat Ben-Tov, survivor of two bus bombings in Tel Aviv, was keenly aware of the mixed nature of luck when interviewed in her hospital bed. “I have no luck, or I have all the luck”, she told reporters. “I am not sure which” (Perspectives 1995).

Luck in daily life is of a less dramatic kind. Norwegian students who were asked to describe a recent lucky episode from their own life included some pure positive instances, like finding money in the streets, guessing the right exam questions, or meeting a good friend by chance. But an even greater number of instances were mixed, including risky situations in

traffic and sports which had taken a fortunate turn, lost objects that were recovered, ferries and trains that were almost lost, but caught in the last minute, and so on (Teigen 1995, Study 1). Participants in this study also rated their stories for attractiveness ("Is this an experience you would like to have repeated?"). Their ratings formed a bimodal distribution. Only half of the lucky episodes were worth being relived. This ambivalence was confirmed by a second group that read 30 vignettes based on the original stories. They would generally prefer *not* to experience these lucky situations themselves. What mattered was clearly not the valence of the factual outcome by itself, but rather the *difference* in valence between the factual outcome and the imagined counterfactuals. The larger the difference in attractiveness, the luckier the actor was judged to be ($r$ = .71).

Good luck and good experiences are accordingly not the same. People who were simply asked to tell about *positive* episodes, happy moments, from their daily life, reported incidents of a different nature. Many were of an interpersonal character (receiving a hug, being invited for dinner). Such incidents are nice per se, and need not be contrasted with worse counterfactuals. Stories about *negative* experiences and bad luck episodes were more alike (Teigen 1995, Studies 3 and 4). Why? We can assume that people generally strive for, and achieve, an acceptable state of normalcy or status quo. Bad things that happen will automatically be compared with this default. It has been claimed that counterfactual thinking typically occurs whenever people experience adverse events (Roese 1997), precisely because such events are construed as deviant or "abnormal" (Kahneman and Miller 1986). Their deviance is accordingly in need of being examined and explained (Weiner 1985). Thus, negative events and unlucky episodes are similar as both generate "upward" counterfactuals, that is, thoughts about a better outcome than the one that actually occurred. We ask how failures could have been avoided, and blame ourselves and others for not taking preventive measures and "allowing" an accident to occur. In other words, we compare what happened

with counterfactuals that "should" or "ought" have been. Such thoughts can be adaptive. According to the "Functional theory of counterfactual thinking" (Epstude and Roese 2008; Roese and Epstude 2017) they play an important role in motivating behavior and preparing for the future.

**Close calls**

We observed in the past section that luck depends on counterfactuals, but these can go both ways. When will a situation be compared with something better, and when will thoughts of worse outcomes be particularly prominent? Epstude and Roese (2008) claimed that counterfactuals are mostly of an "upward" nature, and for good reasons, as thoughts about a better life can help us to achieve it. If they are right, why should we sometimes bother with downward counterfactuals and imagine life as worse? Yet such "downward" thoughts were, in our studies, a prerequisite for feeling lucky, rather than just feeling good.

It has been argued that downward comparisons can also be adaptive, as they make people more content with their lot ("we did not win, but at least we made it to the podium"; "the car is wrecked, but at least we are alive"). Such thoughts apply especially to situational features that cannot be changed, and to people that will not be given another chance, but have to rest content with whatever they have got (Markman, Gavanski, Sherman and McMullen 1993).

But downward thoughts need not be driven by a motive to feel better or to be preserved by their adaptive functions. Sometimes they occur as the result of a purely cognitive or attentional process that makes dangers "pop up" in the perceptual field. Thus, downward counterfactuals emerge spontaneously whenever worse outcomes are perceived as *close*.

Participants in the studies cited above were asked to evaluate not only the attractiveness, but also the closeness of the counterfactual event. How *easily* could the

alternative outcome have happened? “I dropped a pot of potatoes onto the kitchen floor – boiling water splashing all around – but I was not hurt.” This was, somewhat paradoxically, presented as a good luck incident, the reason being that the actor could easily imagine being scalded in a situation that was already out of control. Degree of closeness (ratings of how easily the alternative outcome could have happened) turned out to be highly correlated ($r = .63$) with ratings of degree of luck. The protagonist in the potato incident seemed to have accepted the dropping of the pan as a fact and being splashed with boiling water as a close, readily imaginable possibility. Similarly, the tourists in the tsunami study must have felt that they were closer to disaster than to safety. The emphasis on closeness as a gradable determinant of luck seems to agree well with the central role of modal nearness (as opposed to objective probabilities) in Pritchard’s (2014) modal account of luck.

Counterfactual closeness can be achieved in different ways. Depending upon the domain in question, a real or imagined alternative can be spatially, temporally, socially or conceptually close. According to Construal Level Theory (Trope and Liberman 2010), all these distances are subjectively exchangeable in the sense that they have similar psychological effects. Closeness to a negative event can accordingly be conceived in terms of perceived spatial or temporal distance, as when you are “lucky” to catch the last bus seconds before it leaves, or the car just in front of you is singled out for police control. But closeness can also be achieved in a more dynamic sense, as when a series of events describe a discernible upward or downward trend, pointing towards a specific outcome that might seem “doomed” to occur unless diverted. Participants who were asked to illustrate their good luck experiences as a cartoon in three frames, produced stories where the two first scenes typically indicated a downward trajectory, which took a sudden upward turn in the last scene (Teigen, Evensen, Samoilow and Vatne 1999).

This implies that the same outcome might illustrate good or bad luck according to the order in which events take place. A player winning, and then losing, the same amount of money is considered unlucky. But if he wins back an initial loss, people will consider it an example of good luck. Similar effects can be obtained from the way a tale is told (Hales and Johnson 2014). Good news after bad news give a luckier impression than bad news after good ones, regardless of the chronological order of events (Teigen et al. 1999). Sometimes, two misfortunes can appear luckier than one. A traveller, who had to cancel his trip because of illness, was judged to feel "a little lucky" when his flight was cancelled anyway. This would make his illness less critical, by turning the counterfactual into a semifactual: "Even without the illness, my trip would have to be called off."

Luck has by some authors (e.g., Rescher 1995; Wagenaar 1988) been related to perceived probability, suggesting that a positive outcome is perceived as luckier when it is believed to be improbable, or rare. Our studies indicate that high probability of the counterfactual outcome is even more crucial than low probability for what actually took place. To estimate probabilities in retrospect of something that did not happen might seem odd. Yet people do it on a regular basis. After a game, a player might say: "we had a good chance of winning the match." From this, most listeners will infer that the team did not win, despite the 'good chance' (Teigen 1998a).

How are such post-hoc probabilities assessed? Studies indicate that probability estimates of what happened and what did not happen will be estimated in different ways. To assess the chances for the actual outcome, most people attempt to turn the clock back and try to remember or imagine what the chances looked like in beforehand. The probabilities for the counterfactual outcome can be assessed in a different and more direct way through a simple closeness judgment. Imagine that Ivan and Boris play Russian roulette with two bullets (to enhance excitement). Both players survive. It turns out that Ivan's six-chambered revolver has

stopped spinning wedged in between the two bullets, whereas the spinning barrel in Boris' revolver came to rest between two empty chambers. When asked who had the better chances of survival (the factual outcome), most people said that chances were the same (4/6) for both players. But when asked who was more likely to be killed (the counterfactual), a majority agreed with Ivan, who claimed he had been close.

This *closeness heuristic* for assessing probabilities of outcomes that did not happen can lead to elevated risk judgments. In one study, Norwegian students (attending classes in law and economics) were asked whether they had ever been in a life-threatening situation. Of 146 students, 80 (55.8%) said yes. Traffic accidents and near misses were common. Other situations ranged from mountain climbing, parachuting, and violent assaults, to incidents of choking and poisoning. Illnesses were rarely mentioned. They were then asked to estimate their probability of being killed and finally to rate how 'close' they had been to death on a scale from 0 to 10 (Teigen 2005: Experiment 2). Estimated probabilities of death ranged from 10% to 100% (*sic*), with a mean of 55.9%. If we take these figures literally, one would expect a third of the Norwegian population to be lost before the age of 25. But these probabilities were not derived from frequencies. Instead they were strongly correlated ($r$ = .84) with closeness ratings, indicating that proximity and probability were, in this study, almost interchangeable concepts.

**When risk breeds luck**

The studies reported in the previous sections demonstrate that luck in daily life typically occurs in situations where worse outcomes are perceived as close. Such incidents have much in common with situations involving risks. We now take this observation further by discussing the role of risks and hazards in generating lucky incidents (in addition to producing, sometimes, unlucky ones).

A risk is usually defined as the probability for an aversive event. In high-risk domains, or high-risk environments, probabilities are high, or the consequences are severe, or both. In the risk management literature, risks are often color-coded from green (acceptable risk), through yellow/orange (moderate risk) to red (high risk) in a diagram with frequency or probability on the vertical axis and amount of damage along the horizontal axis. In these charts, we find a green area in the lower left corner, red risk in the upper right, and moderate risks along the diagonal, indicating that risks can be regarded as moderate with frequent, but minor accidents, or with more severe consequences occurring rarely. In other domains, for instance in medicine, the consequences are typically specified (e.g., death risks, or risks of specific side effects); degree of risk and the probability of this specific outcome will then become synonymous concepts. In business and gambling contexts, 'risky' prospects refer more commonly to those with highly variable outcomes, with opportunities for big losses as well as for substantial gains. When lay people are asked to explain the meaning of risk, they produce definitions similar to these, although in practice they seem to attend more closely to outcome magnitudes than to the probability dimension (Huber 2012; Teigen, Brun and Frydenlund 1999). Despite the fact that risks seem to be ubiquitous, and are discussed to an extent that have made some scholars speak about modernity as a "risk society" (Beck 1992; Giddens 1999), the probabilities associated with most risks are, in a Western society, quite low. Substances, activities or technologies with, say, more than a 10% chance of causing severe damage would soon be avoided or banned. With even lower probabilities, the probabilistic side of risk becomes more difficult to process and grasp. In an attempt to standardize verbal descriptions of risk, it has been suggested that adverse responses in a medical context that exceeds 1 percent should be labelled "high risk" (Calman 1996). But most people expect "high risk" to denote much higher chances, perhaps around 60% (Berry 2004). The gap between objectively measured and subjectively perceived risks indicate that

people will see dangers around and feel they are substantial, even in a relatively safe environment. From this, we can infer that most people who find themselves exposed to risks (as they define it) will escape unharmed. Still, they might feel the presence of close and worse counterfactuals. In other words, they might feel lucky.

If luck depends on close and worse counterfactuals, as discussed above, risky or hazardous situations should have the potential of generating luck. Such situations might be considered *dangerous*. In one study (Teigen 1998b), student participants were asked to briefly describe incidents from last year that they had experienced as dangerous or risky, regardless of actual outcome. They were further asked to rate the degree of good or bad luck involved, and to what extent the event had been a pleasant or unpleasant one. In addition to describing what happened, they were also asked to indicate whether something else could "easily" have happened, and how pleasant or unpleasant that could have been.

Almost half of the stories turned out to be about risky traffic situations, ranging from collisions and vehicles out of control, to careless crossing of the road on foot. Other risky incidents involved leaking boats, diving, parachuting, skiing, climbing, falling, and assaults. Most incidents (87%) were described as unpleasant. Yet a majority (70%) declared themselves as more lucky than unlucky. The explanation of this apparent paradox lies in the fact that (a) something else could easily have happened (in nine out of ten stories), and (b) that this alternative outcome would have been even more disastrous.

The stories were subsequently distributed to a new group for obtaining a "second opinion" from outsiders. This panel of peers perceived the original situations as very unpleasant but also quite lucky. They also judged an alternative, worse outcome as having been close. Moreover, ratings of good luck correlated strongly with ratings of counterfactual closeness ($r$ = .76) and counterfactual aversiveness ($r$ = .78). So, for instance, the situation judged to be most "lucky" – a driver miraculously avoiding a head-on collision with two

trucks racing side by side on a narrow road – was also given top scores for dangerousness, closeness of counterfactual, and potential aversive consequences. In contrast, the most "unlucky" person – who had spoken to some strangers in the street and received an unexpected blow to his head – was among the few who had been in a dangerous situation that turned out worse than could have been expected.

Two separate studies (Teigen 1998b; Experiments 1 and 2) showed high correlations between judged dangerousness and perceived luck ($r$ = .69 and $r$ = .87). Perhaps the very concept of 'danger' implies, for some people, situations that end well, but *could* be disastrous (even if the instructions asked participants to report situations that had been dangerous regardless of consequences). To make sure that negative consequences would be included, participants were in a third experiment asked to report incidences in which they had behaved in a careless or negligent way. They were again asked to rate their own and other people's stories for degree of carelessness and degree of good or bad luck. How pleasant/unpleasant were the incidents, how easily could they have led to a different outcome, and, in that case, how pleasant/unpleasant would this counterfactual outcome have been.

Stories about carelessness ranged from thoughtless behavior in traffic to poor exam preparation, spilled coffee, and unprotected sex. Careless episodes were generally viewed as more unpleasant than pleasant, and could easily (in 83% of the cases) have led to outcomes that were even worse. As a result, people regarded both their own and others' incidents of careless behaviour as more lucky than unlucky, with good luck being positively related to degree of carelessness. The most careless participant had jumped with a paraglider without taking instructions, plummeted to the ground, and was only saved by a thin layer of snow. He was also the luckiest one. In contrast, another participant had dined without making use of the table napkin and had spilled brown sauce on her white sweater. Not so thoughtless, but not very lucky, either.

These studies lead to the perhaps paradoxical conclusion that people who are committed to safety and prepare themselves for all eventualities will rarely experience good luck. By shielding themselves from bad luck they have fewer close calls to celebrate. They might enjoy safety and be better off than the careless and the unprepared, but also less lucky.

**Random vs. personal and magical luck**

A lucky turn of events, a lucky coincidence, a lucky free kick in a football game, could easily, almost by definition have been less lucky. The notion of *random* luck, or luck "by chance" seems primarily applicable to unlikely incidences, or rather, to situations where a worse outcome is deemed more likely than the factual one. By attributing an outcome to random luck, we claim that it is not predictable or controllable, and seem to deny that a simple causal explanation can be found. Yet this does not always stop people from going a step further and ask for principles or forces "behind" the good or bad luck. By doing so, they frequently overstep the boundaries of science, and "misattribute" (Wiseman and Watt 2006) phenomena that they find remarkable and strange to paranormal powers, which scientists find even more remarkable and strange. Instead of giving an unlikely outcome (to be saved "against all odds"), a likely explanation (it happened by chance) they invent an *unlikely* explanation (for instance, supernatural intervention), which makes the outcome appear more likely (Griffiths and Tenenbaum 2007). Some survivors of the tsunami disaster seemed torn between a mundane and a paranormal luck concept, as put by one: "It is not luck, it is more than luck. It is a very strong feeling" (Teigen and Jensen 2011: 52), perhaps indicating that miracles cannot be explained by chance alone. The tension between random luck and magic luck has be observed by several authors (e.g., Cohen, 1960).

To illustrate, individuals who claim that they *believe* in luck do not simply mean that they have realized the role of chance in life (Bandura 1998; Mlodinow 2007; Taleb 2005), but indicate a conviction that outcomes of a certain kind are governed by occult, non-material

forces. This became evident in Wagenaar and Keren's (1988) studies of gamblers and football fans. When asked to estimate the role of chance vs. skill in blackjack, or for the outcome of a football game, they argued that luck should be included as an important third factor. Luck was considered similar to chance in some respects, for instance by being unpredictable, but was in other respects more similar to skills, by being causal and operating over a stretch of time (not unlike a resource that can be exploited and consumed).

Beliefs in magic luck can take many forms. Perhaps most popular is the belief that some people are more disposed for good luck outcomes than others. In a Japanese survey, 79.6% answered affirmatively to the statement: "There are individual differences in the strength of luck" (Murakami 2014). Perceived individual differences also form the basis for Darke and Freedman's (1997a) *Belief in Good Luck Scale.* This scale measures agreement with statements like "Some people are consistently lucky and others are unlucky" and "I consider myself to be a lucky person." Agreement with such items seems to imply both a belief in the existence of luck as an individual characteristic and being personally favored by it. North American students tended to agree rather than to disagree with both these items. In a different study, Darke and Freedman (1997b) found that high believers (according to this scale) tended to take more risks after winning a gamble, while low scorers risked less after winning. Perhaps they fell prey for a different superstition, namely a belief in *fleeting luck*, or a belief that good and bad events tend to take turns and alternate in periods and perhaps cancel each other out. This view of luck as a changeable state rather than a trait characterizing certain individuals has been incorporated in more recently developed scales of belief in luck (Öner-Özkan 2003; Young, Chen and Morris 2009). Other scales have been developed to distinguish other aspects of perceived luck, such as luck in gambling (Wohl, Stewart and Young 2011), belief in bad vs. good luck (André 2008), and beliefs in personal luck vs. fortunate circumstances (André 2008; Thompson and Prendergast 2013).

It might, however, be misguided to dismiss all such beliefs as evidence of magical thinking, as they can partly reflect folk theories of randomness, rather than paranormal views. Moreover, it is not necessarily irrational to regard good and bad luck as associated with individual differences, as some people might make better use of random happenings than others. Thus 'lucky' people do not have to possess a magical ability to bend chance in their favour, but may be skilful at arranging conditions for luck to occur and be quick in seizing the opportunities that arise. Occasions for luck come to those that lead an active and eventful life, do not give up easily, keep their eyes open and expose themselves to serendipitous happenings. From these observations, psychologists have even claimed that people can be taught to be luckier (Wiseman 2003). As for bad luck, the controversial notion of *accident proneness* implies that some people experience more than their share of unlucky incidents (Day, Brasher and Bridger 2012; Visser, Pijl, Stolk, Neeleman and Rosmalen 2007). It needs not be a mystery involved; it suffices to think that some people are more inattentive and commit more mistakes, than do others (Broadbent, Cooper, Fitzgerald and Parker 1982; Wallace, Kass and Stanley 2002). From the study of careless episodes (Teigen 1998b) reported above, one might perhaps predict that mindless and accident-prone people experience both more bad luck and more good luck events in their lives.

Beliefs in oneself as a lucky or unlucky person can further be based on personal memories of fortunate or unfortunate episodes in one's own life, without assumptions of hidden forces or a continued future luck (Thomson and Prendergast 2013). Interestingly, the relevance of such events depends critically on counterfactuals rather than what really happened. Participants in one study (Teigen et al. 1999, Study 1) were asked to judge their degree of good or bad luck in life after recalling autobiographical incidents where something clearly positive or negative had happened to them. Both groups rated themselves as more lucky than unlucky, regardless of the type of incidents they had recalled. Two other groups

were asked to describe incidents where something clearly positive or negative could "easily" have happened, but did not happen after all. These participants rated themselves as very lucky after considering bad things that had not happened, and more unlucky after recalling opportunities they had missed. So, looking back upon your luck in life: don't count your blessings, count your risks.

Close calls work for gamblers, as well. Wohl and Enzle (2003) found that gamblers rated themselves as luckier on the Belief in Good Luck Scale after being near a big loss than when being close to winning. It worked prospectively as well: Those near a big loss bet more on a subsequent game of roulette than did those who had been close to winning. More recently, Wu, van Dijk, Li, Aitken and Clark (2017) found that near-loss players felt luckier than near-winners on a spinner task; they felt especially lucky when the spinner stopped just after passing through a region of losses, compared to when it stopped just before. The players who had managed to pass "unharmed" through the loss sections were also willing to bet more.

The boundary line between the mundane and the mysterious, the normal and the paranormal is in this area a hazy one. Related to the belief in personal luck, people tend to appreciate a risk-taking manager (who succeeds by chance) as equally competent as a manager who succeeds without taking risks, and both are seen much more competent than a manager who takes a chance, but fails (Dillon and Tinsley 2008). Related to beliefs about fleeting luck, people will adopt procedures and rituals designed to make good luck stay longer and chase bad luck away. Xu, Zwick and Schwarz (2012) observed that people who recalled or experienced bad luck took more risks in a new gamble after wiping their hands, as if they were afraid that their bad fortune would stick. Those with good luck became more cautious after wiping their hands, as if they felt their good luck would be washed away. Situations where risks and uncertainties abound (sports, exams, travels, health) can easily become a hotbed for even more elaborate magical rituals to invoke good luck and ward off misfortunes.

Survivors of still greater risks are more disposed to attribute their luck to divine intervention. The opening example of this chapter – the pickup on the edge of an abyss – was on one internet site introduced with the prophetic words: "I bet this guy will be in church Sunday" (Mikkelson and Mikkelson, n.d). Not a poor bet.

**Conclusions**

Luck and risk are intimately related, perhaps more closely than most people think. Regardless of one's views on luck, as random, personal or magic, people are considered *lucky* when escaping risks unharmed, and *unlucky* when harmed. Degree of good luck depends on closeness and on severity of this implied or imagined harm, degree of bad luck upon the severity of harm as well as closeness of a (missed) escape. Since most situations have a potential of a better ending but also for ending worse, it is reasonable to conclude that luck primarily exists not in the outside world, but in the minds of men. Hales and Johnson (2014) called luck accordingly "a cognitive illusion," but as such one with tangible consequences. Take a risky decision or a hazardous manoeuvre that went well "by chance." Contemplating the alternative, one might conclude that luck is on our side, and feel protected. Alternatively, one might see the closeness as a wake-up call, a disaster averted this time by sheer luck, and feel alarmed. Dillon, Tinsley and Burns (2014) distinguish between *resilient* near-misses (in the first case) and *vulnerable* near-misses (in the second). They observe that individuals who experience resilient near-misses also miss an opportunity for learning. They will be more likely to ignore hazard warnings and be less prepared for a future disaster.

People are not only lucky when they run objective risks and are physically close to disaster. When questioned about their luck in life, people often bring up themes of a more existential character, like being lucky to have a family, to have good health, or to live in a peaceful society (Teigen 1997). Such descriptions of more permanent aspects of their luck are almost identical to stories about what they are *grateful* for in life. Although not endangered,

these assets become only lucky by being contrasted with a downward counterfactual. When people are asked *why* they feel lucky, and grateful, for having a good life, they go to the opposite extreme and claim they "could" have lived in poverty or war. People have powerful imaginations. While closeness is essential for spontaneous counterfactuals, it is less critical for people's deliberate assessments of their luck in life. When students who are "lucky" to be born in Norway, are asked to consider "what could have been different in your life?" – they go to the other extreme and suggest a third world country. They never say: "I could have lived in Sweden."

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