



List of cognitive biases with examples

Decision-making, belief, and behavioral biases

Many of these biases affect belief formation, business and economic decisions, and human behavior in general. They arise as a replicable result to a specific condition: when confronted with a specific situation, the deviation from what is normally expected can be characterized by:

	Name	Description	Examples
1	<u>Ambiguity effect</u>	The tendency to avoid options for which missing information makes the probability seem "unknown". ^[9]	<p>Example #1, prefer to buy a used car with known collision history over another car with no history available.</p> <p>Example #2, consider a bucket containing 30 balls. The balls are either red, black or white. Ten of the balls are red, and the remaining 20 are either black or white, with all combinations of black and white being equally likely. In option X, drawing a red ball wins a person \$100, and in option Y, drawing a black ball wins them \$100. The probability of picking a winning ball is the same for both options X and Y. In option X, the probability of selecting a winning ball is 1 in 3 (10 red balls out of 30 total balls). In option Y, despite the fact that the number of black balls is uncertain, the probability of selecting a winning ball is also 1 in 3. This is because the number of black balls is equally distributed among all possibilities between 0 and 20. The difference between the two options is that in option X, the probability of a favorable outcome is known, but in option Y, the probability of a favorable outcome is unknown ("ambiguous").</p>
2	<u>Anchoring</u> or focalism	The tendency to rely too heavily, or "anchor", on one trait or piece of information when making decisions (usually the first	<p>http://coglode.com/gems/anchoring-bias</p> <p>the initial price offered for a used car sets the standard for the rest of the negotiations, so that prices lower than the initial price seem more reasonable even if they are still higher than what the car is really worth.</p>

		piece of information that we acquire on that subject) ^{[10][11]}	
3	<u>Anthropomorphism</u>	Giving human characteristics and purposes to inanimate objects, animals, plants, or other natural phenomena, or to God.	<p>Animal cartoons. Pinocchio, the famous wooden doll was anthropomorphized when he was given the ability to talk, walk, think, and feel like real boy. Fables and fairy tales usually have characters that can serve as anthropomorphism examples.</p> <p>Aesop's fable about the Tortoise and the Hare.</p> <p>Anthropomorphism is slightly different from <u>personification</u>, which is describing an object using human characteristics. Anthropomorphism is actually having the animal or object behave as if it is human.</p>
4	<u>Attentional bias</u>	The tendency of our perception to be affected by our recurring thoughts. ^[13]	<p>The phone always ring when I am in the shower, never fails!</p> <p>http://www.howtogetyourownway.com/biases/attentional_bias.html</p> <p>Imagine you and your mates regularly go sea fishing in a bay near where you live, and you tend to see the same seal. Someone might say: <i>"That seal with a white head only appears in this bay when we're fishing."</i></p> <p>Now, that statement probably deserves a polite response. But when I said that exact thing once, my mates (also ex-intelligencers) took great delight in deriding my observation. One quickly reminded me that I was displaying Attentional Bias. The others joined in, and it wasn't too many minutes of banter before the whole invasion of Iraq was my fault. As I rolled my eyes, he said:</p> <p><i>"There are four possible outcomes:</i></p> <ol style="list-style-type: none"> <i>1. We're fishing here, and the seal is present.</i> <i>2. We're fishing here, and the seal is not present.</i> <i>3. We're not here, and the seal is present.</i> <i>4. We're not here, and the seal is not present.</i> <p><i>You are only considering Outcome 1. You have ignored Outcome 2, and you don't know Outcomes 3 and 4."</i></p> <p>He was right of course. I had displayed Attentional Bias. I had failed to examine all possible outcomes</p>

			when making my observation. I was biased towards Outcome 1.
5	<u>Automation bias</u>	The tendency to excessively depend on automated systems which can lead to erroneous automated information overriding correct decisions. ^[14]	Medical doctors know all. When I have health problem, I can trust doctor's advice and follow whatever the doctor asks me to do.
6	<u>Availability heuristic</u>	The tendency to overestimate the likelihood of events with greater "availability" in memory, which can be influenced by how recent the memories are or how unusual or emotionally charged they may be. ^[15]	Many health's articles promote good benefits for being vegetarian. Therefore, we would have good health if we become vegetarians.
7	<u>Availability cascade</u>	A self-reinforcing process in which a collective belief gains more and more plausibility through its increasing repetition in public discourse (or "repeat something long enough and it will become true"). ^[16]	20 years ago, meditation is mostly practiced by Buddhist monks, and not many people paid much attention to this practice. However, the practice gradually gains public's attention. Health institutes, universities, and work places start offering the meditation classes. Today meditation is extensively practiced by many people.
8	<u>Backfire effect</u>	When people react to disconfirming evidence by	A fake cancer woman successfully convinces the public for the funding support.

		strengthening their beliefs. ^[17]	
9	<u>Bandwagon effect</u>	The tendency to do (or believe) things because many other people do (or believe) the same. Related to <u>groupthink</u> and <u>herd behavior</u> . ^[18]	Pho Hien's temple has hundreds of followers. Therefore, it must be a good temple to go to every Sunday. Buying and selling frenzy in the stock market
10	<u>Base rate fallacy</u> or Base rate neglect	The tendency to ignore base rate information (generic, general information) and focus on specific information (information only pertaining to a certain case). ^[19]	A <u>formal fallacy</u> . "Faith healing works, but not all the time, especially when one's faith is not strong enough". The American Cancer Society: "Available scientific evidence does not support claims that faith healing can cure cancer or any other disease. Some scientists suggest that the number of people who attribute their cure to faith healing is lower than the number predicted by calculations based on the historical percentage of spontaneous remissions seen among people with cancer..."
11	<u>Belief bias</u>	An effect where someone's evaluation of the logical strength of an argument is biased by the believability of the conclusion. ^[20]	A researcher studying the affect of prayer on illness. A completely open-minded researcher will gather data and then come to a conclusion based purely on the data collected. A highly religious person may interpret the data in favor of prayer as a factor in healing, while an atheist may discount pro-prayer data. E.g. "...the evidence against humans possessing psychic powers is precariously close to demonstrating humans do have psychic powers..."
12	<u>Bias blind spot</u>	The tendency to see oneself as less biased than other people, or to be able to identify more cognitive biases in others than in oneself. ^[21]	Definition: recognizing the impact of biases on the judgement of others, while failing to see the impact of biases on one's own judgement. I take an IQ test which shows I have a lower IQ. I believe it is wrong. I find more credible the results from another test which shows me as having a very high IQ, even though I know the test is less valid.

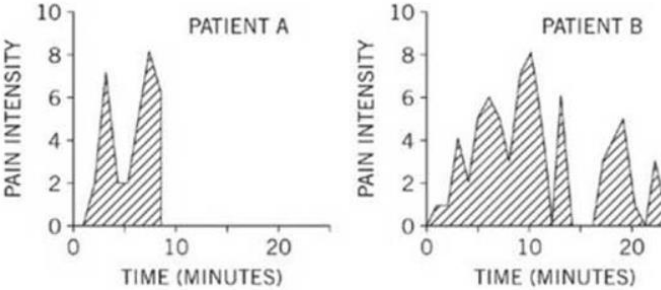
13	<u>Cheerleader effect</u>	The tendency for people to appear more attractive in a group than in isolation. ^[22]	Also known as the group attractiveness effect . A group of women in a bar as collectively attractive but individually "sled dogs."
14	<u>Choice-supportive bias</u>	The tendency to remember one's choices as better than they actually were. ^[23]	<p>For example: Buying milk (little cheaper) from Shoppers on senior day that is located further away from home vs buying from Nofrill that is very close to home. Time and gas spent going to Shoppers do not compensate for the little amount of money saved from buying milk there.</p> <p>Everyone has made a decision and then regretted it. One common example is buyer's remorse (suffering guilt over an extravagant purchase or realising you've been overly influenced by a salesman). If you find yourself actively avoiding that regret by finding positives about your poor choice, then Choice Supportive Bias is at play.</p>
15	<u>Clustering illusion</u>	The tendency to overestimate the importance of small runs, streaks, or clusters in large samples of random data (that is, seeing phantom patterns). ^[11]	<p>Clustering illusion is the cognitive bias of seeing a pattern in what is actually a random sequence of numbers or events. It is a type of apophenia related to the gambler's fallacy.</p> <p>It's sometimes called the "hot hand fallacy" due to the belief common among basketball coaches and players that it was best to use players on a hot streak (i.e., those who had a "hot hand").</p> <p>This is particularly true of gamblers who desperately try to 'beat the system' by seeing patterns of events in cards and other games of chance</p>
16	<u>Confirmation bias</u>	The tendency to search for, interpret, focus on and remember information in a way that confirms	For example, if a nurse believes that during a full moon there is an increase in admissions to the emergency room where she works, she will only take notice of admissions during a full moon, but not pay attention to admissions during other nights of the month. Over time she develops this tendency that unjustly strengthens her

		one's preconceptions. ^[24]	belief in the relationship between the full moon and accidents and other lunar effects.
17	<u>Congruence bias</u>	The tendency to test hypotheses exclusively through direct testing, instead of testing possible alternative hypotheses. ^[11]	<p>Congruence bias is why we all jump into conclusion and stay there. If you can't imagine that your original idea is wrong, <i>that</i> is the congruence bias</p> <p>Let's say you call your girlfriend and she did not answer the phone; you probably assume that she is not home or maybe in the shower or you might have dialed the wrong number and decide to call her later. You jumped into conclusion that your first hypothesis is correct. People do this all the time with no ill outcome.</p> <p>If you're pretty sure you left your keys in that one old jacket you have, you're going to keep circling back to it because it's hard to think of other places your keys might be.</p>
18	<u>Conjunction fallacy</u>	The tendency to assume that specific conditions are more probable than general ones. ^[25]	The belief that selling a house with its furniture is faster and higher price than selling a house without its furniture.
19	<u>Regressive bias</u>	A certain state of mind wherein high values and high likelihoods are overestimated while low values and low likelihoods are underestimated. ^{[4][26]} [27][unreliable source?]	<p>Anchoring effect as described in Lecture 12 on cognitive biases.</p> <p>E.g. Estimate the percentage of African nations in UN based on a number anchored from a random row in the roulette.</p>
20	<u>Conservatism (Bayesian)</u>	The tendency to <u>revise one's belief</u> insufficiently when presented	<p>Passenger: You are going at 160km/hour on a snowy day on the highway!</p> <p>Driver: I should be save now at 130km/hour.</p>

		with new evidence. ^{[4][28][29]}	
21	<u>Contrast effect</u>	The enhancement or reduction of a certain perception's stimuli when compared with a recently observed, contrasting object. ^[30]	<p>Put one hand in cold water and other in warm water. Then put both in lukewarm water. The cold hand will feel the temperature to be warmer while the warm hand will feel colder.</p> <p>Optical illusions in our perception lecture.</p> <p>The worst house in an affluent neighbourhood will have a higher resale value than the best house in a poorer neighbourhood.</p>
22	<u>Curse of knowledge</u>	When better-informed people find it extremely difficult to think about problems from the perspective of lesser-informed people. ^[31]	Dr. Lo is better-informed about quadratic thinking, and it is difficult for him to understand his student's ignorance.
23	<u>Decoy effect</u>	Preferences for either option A or B change in favor of option B when option C is presented, which is similar to option B but in no way better.	<p>The Economist:</p> <p>One of the best known examples of the decoy effect is an old subscription page of The Economist. They offered 3 different types of subscription:</p> <p>Web Subscription – \$59</p> <p>Print Subscription – \$125</p> <p>Web and Print Subscription – \$125</p> <p>The first offer of \$59 seemed reasonable. The second option (only print) seemed a bit expensive, but still ok. But what about the third option? Both Web and Print for the same price as the print-only subscription?</p> <p>Dan Ariely, an Israeli American professor of psychology and behavioral economics and author of “Predictably Irrational“, tested this phenomenon with his MIT students where he asked them to choose a subscription. The results were:</p>

			<p>Web Subscription – \$59 (16 students)</p> <p>Print Subscription – \$125 (0 students)</p> <p>Web and Print Subscription – \$125 (84 students)</p> <p>Total revenue: \$11,444</p> <p>The majority of students selected the third option (dominating) and none of them selected the second option (the decoy). Knowing this, Ariely performed a second test and removed the decoy product. The results were:</p> <p>Web Subscription – \$59 (68 students)</p> <p>Web and Print Subscription – \$125 (32 students)</p> <p>Total revenue: \$8,012</p> <p>This time, most of the students preferred the first subscription. By adding a decoy product, The Economist improved sales with 30%.</p>
24	<p><u>Denomination effect</u></p>	<p>The tendency to spend more money when it is denominated in small amounts (e.g., coins) rather than large amounts (e.g., bills).^[32]</p>	<p>In an experiment conducted by Raghuram and Srivastava, university students were given a dollar, either in quarters or as a single dollar bill. The students were then given the option to either save the money they had been given or to spend it on candy. Consistent with the theory, the students given the quarters were more likely to spend the money they were given.</p>
25	<p><u>Disposition effect</u></p>	<p>The tendency to sell an asset that has accumulated in value and resist selling an asset that has declined in value.</p>	<p>Suppose an investor purchases a stock that she believes to have an expected return high enough to justify its risk. If the stock appreciates and the investor continues to use the purchase price as a reference point, the stock price will then be in a more concave, more risk-averse, part of the investor’s value function. It may be that the stock’s expected return continues to justify its risk. However, if the investor somewhat lowers her expectation of the stock’s return, she will be likely to sell the stock. What if, instead of appreciation, the stock declines? Then its price is in the convex, risk-seeking, part of the value function. Here the investor will continue to hold the stock even if its expected return falls lower than would have been necessary for her to justify its original purchase. Thus the investor’s belief</p>

			about expected return must fall further to motivate the sale of a stock that has already declined than on that has appreciated. Similarly, consider an investor who holds two stocks. One is up; the other is down. If the investor is faced with a liquidity demand, and has no new information about either stock, she is more likely to sell the stock that is up.
26	<u>Distinction bias</u>	The tendency to view two options as more dissimilar when evaluating them simultaneously than when evaluating them separately. ^[33]	There is no difference in taste between organic banana and synthetic banana. However, there is a big different in prices.
27	<u>Dunning-Kruger effect</u>	The tendency for unskilled individuals to overestimate their own ability and the tendency for experts to underestimate their own ability. ^[34]	Young drivers think their driving skills are good and driving is a piece of cake. Unfortunately, young drivers have the highest accident rate.
28	<u>Duration neglect</u>	The neglect of the duration of an episode in determining its value	http://www.webperformancetoday.com/2012/01/05/colonoscopies-cold-water-and-pain-how-our-memory-works-and-how-this-relates-to-web-performance/ In the graphs below, you can see the experience of two representative patients. As you can see, the experience of each patient varied considerably during the procedure, which lasted 8 minutes for patient A and 24 minutes for patient B.

			 <p>An interesting question emerges from this: Assuming that both patients used the scale of pain similarly, who actually experienced more pain? Based on these graphs, most of us would assume that Patient B suffered significantly more than Patient A.</p> <p>Surprise finding: Duration of pain doesn't correlate with perceived intensity.</p> <p>After the procedure, patients were asked to rate the "total amount of pain" they had experienced during the procedure. Surprisingly, Patient A retained a much worse memory of the experience than Patient B — in fact it was twice as bad.</p>
29	<u>Empathy gap</u>	The tendency to underestimate the influence or strength of feelings, in either oneself or others.	When an employer needs to assess the need for an employee's bereavement leave.
30	<u>Endowment effect</u>	The tendency for people to demand much more to give up an object than they would be willing to pay to acquire it. ^[35]	The endowment effect has been observed using different goods ^[7] in a wide range of different populations, including children, ^[8] great apes, ^[9] and new world monkeys. ^[10] Apes showed endowment effects for food, but not for tools. When given a chance to trade away their owned fruit discs to obtain the equally valued cereal chunks (or vice versa), however, monkeys required a far greater compensation than the equally preferred treat.
31	<u>Essentialism</u>	Categorizing people and things according to their essential nature, in	Men are more aggressive than women. The president of Harvard recently suggested that the relative scarcity of women in "high-end" science and

		spite of variations. ^{[dubious – discuss][36]}	engineering professions is attributable in large part to male-female differences in intrinsic aptitude (Summers, 2005).
32	<u>Exaggerated expectation</u>	Based on the estimates, real-world evidence turns out to be less extreme than our expectations (conditionally inverse of the conservatism bias). ^{[unreliable source?][4][37]}	When the Chevy Volt was showcased, The way the media made it sound is that everybody’s next vehicle was going to be electric.
33	<u>Experimenter's or expectation bias</u>	The tendency for experimenters to believe, certify, and publish data that agree with their expectations for the outcome of an experiment, and to disbelieve, discard, or downgrade the corresponding weightings for data that appear to conflict with those expectations. ^[38]	E.g. “...the evidence against humans possessing psychic powers is precariously close to demonstrating humans do have psychic powers...” music backmasking , ^[citation needed] in which hidden verbal messages are said to be audible when a recording is played backwards. Some people expect to hear hidden messages when reversing songs, and therefore hear the messages, but to others it sounds like nothing more than random sounds.
34	<u>Focusing effect</u>	The tendency to place too much importance on one aspect of an event. ^[39]	Mrs. Wong placed an offer to buy a property with a very large and beautiful garden but did not consider the rest of the other features of the house. She just wanted a big garden because her present home lacks a garden- not thinking of the time and money spent on gardening and maintenance work that comes along with it. Most of the common examples of the focusing illusion emphasize the personal: if I were rich (or thin, or beautiful, ...), I'd be happy

<p>35</p>	<p><u>Forer effect</u> or Barnum effect</p>	<p>The observation that individuals will give high accuracy ratings to descriptions of their personality that supposedly are tailored specifically for them, but are in fact vague and general enough to apply to a wide range of people. This effect can provide a partial explanation for the widespread acceptance of some beliefs and practices, such as astrology, fortune telling, graphology, and some types of personality tests.</p>	<p>Subjects who, for example, believe in the accuracy of horoscopes have a greater tendency to believe that the vague generalities of the response apply specifically to them.</p> <p>Especially the Chinese old timers strongly believe a child born in the year of dragon will do better in life in terms of fortune and careers than those children born under other astrological signs.</p>
<p>36</p>	<p><u>Framing effect</u></p>	<p>Drawing different conclusions from the same information, depending on how that information is presented</p>	<p>For example, consumers are more likely to enjoy meat labeled 75% lean meat as opposed to 25% fat,</p> <p>This effect occurs when customers see cost as a combination of gains and losses. Take as example, a hotel room advertised at \$300, with a \$25 discount for early booking and compare it with the same room at \$250, with a 10% single person surcharge. Customers will tend to choose the arrangement even though the cost of \$275 is the same. Customers tend to choose gains over losses. An early booking discount is seen a gain whereas a surcharge is seen as a loss.</p>
<p>37</p>	<p>Frequency illusion</p>	<p>The illusion in which a word, a name, or other thing that has recently come to one's attention suddenly seems to appear with improbable</p>	<p>Frequency illusion describes the syndrome in which a concept or thing you just found out about suddenly seems to crop up everywhere.</p> <p>The frequency illusion occurs when you buy a new car, and suddenly you see the same car everywhere. Or when a pregnant woman suddenly notices other pregnant women all over the place. It's a passive experience, where our brains seek out information that's</p>

		frequency shortly afterwards (not to be confused with the recency illusion or selection bias). ^[40] Colloquially, this illusion is known as the Baader-Meinhof Phenomenon. ^[41]	related to us, but we believe there's been an actual increase in the frequency of those occurrences.
38	Functional fixedness	Limits a person to using an object only in the way it is traditionally used.	Using a paper clip as an eyelid retractor. Using a paper clip to pick open a lock.
39	Gambler's fallacy	The tendency to think that future probabilities are altered by past events, when in reality they are unchanged. The fallacy arises from an erroneous conceptualization of the law of large numbers .	The example is already given. In real life, if 19 throws of dice resulting in head, one will be stupid not to bet on head in the next throw. Mathematicians can't think outside the box. (the dice is skewed)
40	Hard-easy effect	Based on a specific level of task difficulty, the confidence in judgments is too conservative and not extreme enough	A tendency to be overconfident about the correctness of answers to difficult questions and under confident about answers to easy questions. An experimental group was given a questionnaire. It consisted of two alternative general-knowledge questions. Such as "Who was born first, Aristotle or Buddha?" or "Was the zipper invented before or after 1920?" The subjects filled in the answers they believed to be correct and rated how sure they were of them. The result shows that subjects tend to be underconfident when it comes to questions designated by the experimenters to be easy and overconfident when it comes to questions designated by the experimenters to be hard.[4]

			<p>A common social comparison bias—the better-than-average-effect—is frequently described as psychologically equivalent to the individual judgment bias known as overconfidence. However, research has found “hard-easy” effects for each bias that yield a seemingly paradoxical reversal: Hard tasks tend to produce overconfidence but worse-than-average perceptions, whereas easy tasks tend to produce underconfidence and better-than-average effects. We argue that the two biases are in fact positively related because they share a common psychological basis in subjective feelings of competence.</p>
41	<p><u>Hindsight bias</u></p>	<p>Sometimes called the "I-knew-it-all-along" effect, the tendency to see past events as being predictable^[45] at the time those events happened.</p>	<p>The Denver Broncos won the 2016 Super Bowl. I knew it and surely they did.</p> <p>Mr. and Mrs. Smith just got divorced. I know that marriage won't last even on their wedding day.</p>
42	<p><u>Hot-hand fallacy</u></p>	<p>The "hot-hand fallacy" (also known as the "hot hand phenomenon" or "hot hand") is the fallacious belief that a person who has experienced success has a greater chance of further success in additional attempts.</p>	<p>A gambler has had a streak of good luck. Therefore, the gambler is "hot" and the good luck will continue at a probability greater than chance.</p> <p>A soccer player scores two goals. More of his team mates start passing him the ball more often in the assumption he is 'on the ball'.</p> <p>The notion that because one has had a string of successes, he or she is more likely to have continued success.</p>
43	<p><u>Hyperbolic discounting</u></p>	<p>Discounting is the tendency for people to have a stronger preference for more immediate payoffs relative to later payoffs. Hyperbolic discounting leads to choices that are inconsistent over time – people make choices today that</p>	<p>If you were offered the choice between \$50 now and \$100 a year from now, most would ask for the \$50. However, given the choice between \$50 in nine years or \$100 in ten years you would be likely choose the \$100 in ten years.</p> <p>Best example is for retiree who has a choice to have the lump sum of his pension now instead of getting a fix</p>

		<p>their future selves would prefer not to have made, despite using the same reasoning.^[46] Also known as current moment bias, present-bias, and related to Dynamic inconsistency.</p>	<p>payoff of his pension monthly for the rest of his life. Most people would choose the former.</p>
44	<p>Identifiable victim effect</p>	<p>The tendency to respond more strongly to a single identified person at risk than to a large group of people at risk.^[47]</p>	<p>Ryan White contracted HIV at age 13 and struggled nobly with the disease until succumbing some six years later. Following his death, the US congress passed the Ryan White Care Act, which funded the largest set of services for people living with the AIDS in the country. It is clear that Ryan's moving, meritorious six-year struggle with AIDS did more to shift peoples' attitude about the disease than any amount of statistic or medical arguments.</p> <p>The effect is epitomized by the phrase (commonly misattributed to Joseph Stalin), "A single death is a tragedy; a million deaths is a statistic".</p> <p>Hence, the emotional reaction to the victims appears to be a major source of the effect.</p>
45	<p>IKEA effect</p>	<p>The tendency for people to place a disproportionately high value on objects that they partially assembled themselves, such as furniture from IKEA, regardless of the quality of the end result.</p>	<p>You are likely to value your furniture more if you did something to it to make it better for you personally.</p> <p>The yogurt I make is better and healthier than those in the store.</p> <p>Building your own stuff boosts your feelings of pride and competence, and also signals to others that you are competent.</p>
46	<p>Illusion of control</p>	<p>The tendency to overestimate one's degree of influence</p>	<p>Trust me, I always pick a good restaurant.</p>

		over other external events. ^[48]	
47	<u>Illusion of validity</u>	Belief that furtherly acquired information generates additional relevant data for predictions, even when it evidently does not. ^[49]	If you have a Bachelor degree, you will have a better chance to get a job.
48	<u>Illusory correlation</u>	Inaccurately perceiving a relationship between two unrelated events. ^{[50][51]}	Please watch out for the new neighbour, who lived in Jane/Finch area before they moved here.
49	<u>Impact bias</u>	The tendency to overestimate the length or the intensity of the impact of future feeling states. ^[52]	If I lost a job, I will be very upset and it will take a long time to find a new job.
50	<u>Information bias</u>	The tendency to seek information even when it cannot affect action. ^[53]	Still looking for a cheaper lawyer when the divorce papers are to be signed in two days.
51	<u>Insensitivity to sample size</u>	The tendency to under-expect variation in small samples	Small samples make some rich and others poor in the world of gambling. You may have a good day at the tables, but if you keep playing, eventually the house will win.
52	<u>Irrational escalation</u>	The phenomenon where people justify increased investment in a	"Throwing good money after bad". "In for a penny, out for a pound". in a bidding war; the bidders can end up paying much more than the object is worth

		<p>decision, based on the cumulative prior investment, despite new evidence suggesting that the decision was probably wrong. Also known as the sunk cost fallacy.</p>	<p>"Sunk cost fallacy", "irrational escalation of commitment" or "commitment bias".</p> <p>United States commitment to military conflicts including Vietnam in the 1960s and 1970s and in Iraq in the 2000s, where sunk costs in terms of dollars spent and lives lost were used to justify continued involvement.</p>
53	<u>Less-is-better effect</u>	<p>The tendency to prefer a smaller set to a larger set judged separately, but not jointly</p>	<p>Ching-Rhesus monkeys preferred a highly-valued food item alone to the identical item paired with a food of positive but lower value.</p>
54	<u>Loss aversion</u>	<p>"the disutility of giving up an object is greater than the utility associated with acquiring it".^[54] (see also <u>Sunk cost effects</u> and endowment effect).</p>	<p>Loss Aversion: We hang to things for no reason mainly due to the psychological pain of losing</p> <p>Maybe this is the reason why, when we go to a store, sellers want us to hold the product, or they suggest that we just try it on. Maybe this is why there are all those free return deals, because they know that once we feel like we own the product, the attachment will form instantly, and the price we'll need to let go of the product will be slightly higher than the market price. So we'll end up keeping it.</p>
55	<u>Mere exposure effect</u>	<p>The tendency to express undue liking for things merely because of familiarity with them.^[55]</p>	<ul style="list-style-type: none"> • • Mere exposure effect is having a preference for something you are familiar with, like choosing a Coke instead of generic brand because it is more familiar and widely consumed. • When you are older and go groceries shopping, you pick the same brands as your mom because you grew up with them. • •

56	<u>Money illusion</u>	The tendency to concentrate on the nominal value (face value) of money rather than its value in terms of purchasing power. ^[56]	<p>Example people were disgruntled when there was no pay increase in 2009, a year of minus 1% inflation. Yet they accepted the situation very differently when they got 4% increase during 3% inflation.</p> <p>Money illusion misleads many people to think that they are richer when they get a pay raise but not paying attention to the actual rate of inflation</p>
57	<u>Moral credential effect</u>	The tendency of a track record of non-prejudice to increase subsequent prejudice.	<p>I once overheard a driving instructor say to his pupil, "I just work cash in hand these days. I've paid enough tax over the years."</p> <p>This is a great example of Moral Credential Bias. Good practice in the past does give the green light for bad practice.</p>
58	<u>Negativity effect</u>	The tendency of people, when evaluating the causes of the behaviors of a person they dislike, to attribute their positive behaviors to the environment and their negative behaviors to the person's inherent nature.	He is a terrible person at home with his family but tends to behave like a gentleman with companies.
59	<u>Negativity bias</u>	Psychological phenomenon by which humans have a greater <u>recall</u> of unpleasant memories compared with positive memories. ^[57]	When the desert was spilled by the waiter, patron will say the whole dinner was ruined without recalling the nice appetizer, tasty soup, and delicious main course.
60	<u>Neglect of probability</u>	The tendency to completely disregard probability when	Gambling

		making a decision under uncertainty. ^[58]	
61	<u>Normalcy bias</u>	The refusal to plan for, or react to, a disaster which has never happened before.	Fukushima and Chernobyl
62	<u>Not invented here</u>	Aversion to contact with or use of products, research, standards, or knowledge developed outside a group. Related to <u>IKEA effect</u> .	United State would like their citizen to use their home-made automobile rather than imported car from foreign countries, i.e. Europe, Japan and Korean
63	<u>Observer-expectancy effect</u>	When a researcher expects a given result and therefore unconsciously manipulates an experiment or misinterprets data in order to find it (see also <u>subject-expectancy effect</u>).	Experimenters may accidentally treat subjects in experimental and control groups differently if they know which group is getting the real treatment and which is getting a fake or placebo treatment. For example, if the experimenter knows one group is receiving real medicine and the other is receiving a sugar pill, the experimenter might see improvements in the experimental group where none really exist. Another good example is the music backmasking, in which hidden verbal messages are said to be audible when a recording is played backwards.
64	<u>Omission bias</u>	The tendency to judge harmful actions as worse, or less moral, than equally harmful omissions (inactions). ^[59]	https://www.sas.upenn.edu/~baron/papers.htm/vac.html An additional real world example is when parents decide not to vaccinate their children because of the potential chance of death - even when the probability the vaccination will cause death is much less likely than death from the disease prevented.

65	<u>Optimism bias</u>	The tendency to be over-optimistic, overestimating favorable and pleasing outcomes (see also wishful thinking , valence effect , positive outcome bias). ^{[60][61]}	People believing that they are less at risk of being a crime victim, smokers believing that they are less likely to contract lung cancer or disease than other smokers, first-time bungee jumpers believing that they are less at risk of an injury than other jumpers, or traders who think they are less exposed to losses in the markets.
66	<u>Ostrich effect</u>	Ignoring an obvious (negative) situation.	Ice fishers went fishing on the mild weather, and they ignore the warning sign of a thin ice at the lake.
67	<u>Outcome bias</u>	The tendency to judge a decision by its eventual outcome instead of based on the quality of the decision at the time it was made.	My friend lost a lot of weight from a vegetarian diet, and I should change to vegetarian diet. I will lose some weight as well.
68	<u>Overconfidence effect</u>	Excessive confidence in one's own answers to questions. For example, for certain types of questions, answers that people rate as "99% certain" turn out to be wrong 40% of the time. ^{[4][62][63][64]}	Young drivers think they can drive in the winter condition until they hit the black ice and lost control.
69	<u>Pareidolia</u>	A vague and random stimulus (often an image or sound) is perceived as significant, e.g., seeing images of animals or faces in clouds, the man in	The cloud on the sky has a horse shape.

		<p>the moon, and hearing non-existent hidden messages on records played in reverse.</p>	
70	<p>Parkinson's Law of Triviality</p>	<p>The tendency to give disproportionate weight to trivial issues. Also known as bikeshedding, this bias explains why an organization may avoid specialized or complex subjects, such as the design of a nuclear reactor, and instead focus on something easy to grasp or rewarding to the average participant, such as the design of an adjacent bike shed.^[65]</p>	<p>According to Parkinson, the more complex an issue, the less time is spent discussing an issue and the inverse is also true.</p> <p>e.g. Most dharma teachers teach vegetarianism and avoid in-depth talk about theory of liberation, conflict in ideology among Buddhist schools, what make Shakyamuni a Buddha?</p>
71	<p>Pessimism bias</p>	<p>The tendency for some people, especially those suffering from depression, to overestimate the likelihood of negative things happening to them.</p>	<p>The glass is half empty.</p> <p>High self-esteem, a cheerful attitude that tends to look at the positive aspects of a given situation, as well as an optimistic belief in a bright future are associated with physiological activity in the left-hemisphere (LH). In contrast, a gloomy viewpoint, an inclination to focus on the negative part and exaggerate its significance, low self-esteem as well as a pessimistic view on what the future holds are interlinked with neurophysiological processes in the right-hemisphere (RH).</p> <p>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3807005/</p>
72	<p>Planning fallacy</p>	<p>The tendency to underestimate task-</p>	<p>AWE curriculum takes 4 years to enlightenment</p>

		completion times. ^[52]	
73	<u>Post-purchase rationalization</u>	The tendency to persuade oneself through rational argument that a purchase was a good value.	The food was not very good but the ambiance was great and we all had a good time with friends there.
74	<u>Pro-innovation bias</u>	The tendency to have an excessive optimism towards an invention or innovation's usefulness throughout society, while often failing to identify its limitations and weaknesses.	The arrival of Uber in Toronto stirred up a backlash from the taxi industry and was being criticized for violating taxi licensing and insurance regulations.
75	<u>Pseudocertainty effect</u>	The tendency to make risk-averse choices if the expected outcome is positive, but make risk-seeking choices to avoid negative outcomes. ^[66]	The tendency to get people to adopt something is to focus on the gain. To get them to reject something, focus on what they might lose. Classic examples in sales pitch. Instead of 4 apples for the price of 3; buy 3 apples and get one free. The zero price has greater certainty.
76	<u>Reactance</u>	The urge to do the opposite of what someone wants you to do out of a need to resist a perceived attempt to constrain your freedom of choice (see also <u>Reverse psychology</u>).	Psychological reactance is telling somebody to do something and he will do the opposite. It is like a parent telling the adolescent kid not to smoke or drink; yet the kid would act the reverse as an act of rebellion against the adult world. For him, it can function as a first step out of childhood.

77	<u>Reactive devaluation</u>	Devaluing proposals only because they purportedly originated with an adversary.	Reactive devaluation is the sometimes-irrational assumption that parties draw from one another's offers made during negotiations. Example , if someone in an adversarial position makes an offer, it must not be a good offer like Bob's refusal to accept Tom's offer
78	<u>Recency illusion</u>	The illusion that a word or language usage is a recent innovation when it is in fact long-established (see also <u>frequency illusion</u>).	<i>Setagflation</i> (a combination of <i>stagnant</i> and <i>inflation</i> referring to an economy suffering from stagnant economic growth while inflation continues to rise), highlighted by the media as a new blend created by contemporary economists, but in fact dating back to 1965 when it was coined by former chancellor of the exchequer Ian Macleod. The other is the expression <i>credit crunch</i> , indisputably used to characterise the zeitgeist of the late noughties, but in fact dating back more than 40 years to a financial crisis on Wall Street in 1967. <i>Crunch</i> as an expression of 'crisis' or 'critical point' goes back even further, first used by Prime Minister Winston Churchill in 1939.
79	<u>Restraint bias</u>	The tendency to overestimate one's ability to show restraint in the face of temptation.	As a diabetic, I have the will to resist deserts at all time. However, the mango pudding tastes really delicious.
80	<u>Rhyme as reason effect</u>	Rhyming statements are perceived as more truthful. A famous example being used in the O.J Simpson trial with the defense's use of the phrase "If the gloves don't fit, then you must acquit."	"If the gloves don't fit, then you must acquit."

81	<u>Risk compensation / Peltzman effect</u>	The tendency to take greater risks when perceived safety increases.	Car racing.
82	<u>Selective perception</u>	The tendency for expectations to affect perception.	For example, a teacher may have a favorite student because they are biased by <u>in-group favoritism</u> . The teacher ignores the student's poor attainment. Conversely, they might not notice the progress of their least favorite student. ^[1] Wives always complain husband only listen to what they want to hear and ignore what they don't want to hear.
83	<u>Semmelweis reflex</u>	The tendency to reject new evidence that contradicts a paradigm. ^[29]	Vaccine Advocates are a PRIME Example of the "Semmelweis Reflex" My daughter doesn't believe my grandson's on and off fever is due to not enough clothing while taking him to daycare in the morning. Because she read from the news that it's not safe for baby car seat with bulky jacket. She only dressed him with a fleece jacket. She keeps saying that you can't catch a cold in the cold.
84	<u>Social comparison bias</u>	The tendency, when making hiring decisions, to favour potential candidates who don't compete with one's own particular strengths. ^[67]	Depression is the most common mental illness associated to social comparison bias. Social comparison can be good in certain way, i.e., It can motivate students to do well because they want to keep along with their peers.
85	<u>Social desirability bias</u>	The tendency to over-report socially desirable characteristics or behaviours in oneself and under-report socially undesirable	When researchers polled voters, the majority of voters responded that they were going to support the Syrian refugee; However, when the government says they will match any donation for Syrian refugee, the amount of donation collected was by far the lowest when compares with all the others, i.e. Vietnam refugee. This is the typical effect of the social desirability bias that some people do not want to come across as prejudiced

		characteristics or behaviours. ^[68]	and will claim they are going to support the Syrian refugee, even if they have no intentions of doing so.
86	<u>Status quo bias</u>	The tendency to like things to stay relatively the same (see also <u>loss aversion</u> , <u>endowment effect</u> , and <u>system justification</u>). ^{[69][70]}	The new method may not work well, and I do not see anything wrong with the existing method. It works well for 10 years without any problem
87	<u>Stereotyping</u>	Expecting a member of a group to have certain characteristics without having actual information about that individual.	Most single mothers are black.
88	<u>Subadditivity effect</u>	The tendency to judge probability of the whole to be less than the probabilities of the parts. ^[71]	http://en.wikipedia.org/wiki/Subadditivity_effect For instance, subjects in one experiment judged the probability of death from cancer in the United States was 18%, the probability from heart attack was 22%, and the probability of death from "other natural causes" was 33%. Other participants judged the probability of death from a natural cause was 58%. Natural causes are made up of precisely cancer, heart attack, and "other natural causes," however, the sum of the latter three probabilities was 73%, and not 58%.
89	<u>Subjective validation</u>	Perception that something is true if a subject's belief demands it to be true. Also assigns perceived connections between coincidences.	Many people believe in palm reading or card reading.

90	<u>Survivorship bias</u>	Concentrating on the people or things that "survived" some process and inadvertently overlooking those that didn't because of their lack of visibility.	Disbelieve of evolution – In evolution there is no trace of lethal mutants. Disbelieve of evolution and multiverse –We found ourselves living in an inhabitable universe and thus think the exquisite improbable natural laws must be designed by God’s fine tuning. Thus we reject the idea of multiverses and believe there is only one universe. Everytime we detected signals from another universe, right away we tend to include it as part of our own universe.
91	<u>Time-saving bias</u>	Underestimations of the time that could be saved (or lost) when increasing (or decreasing) from a relatively low speed and overestimations of the time that could be saved (or lost) when increasing (or decreasing) from a relatively high speed.	Slow driver says I will get there about the same time driving either at 80 or 100 km. Fast driver thinks I will be there so much faster going at 120 instead of 100 km.
92	Unit bias	The tendency to want to finish a given unit of a task or an item. Strong effects on the consumption of food in particular. ^[72]	Parent says to children: “Finish you plate”.
93	<u>Weber–Fechner law</u>	Difficulty in comparing small differences in large quantities.	Weber's law states that the <u>just-noticeable difference</u> between two stimuli is proportional to the magnitude of the stimuli, (and the subject's sensitivity), i.e. if you sense a change in weight of 0.5 lbs on a 5 pound dumbbell, you ought to feel the extra pound added to a ten pound dumbbell. In fact you don't.

			Fechner's law (better referred to as Fechner's scale) states that subjective sensation is proportional to the logarithm of the stimulus intensity. Perceived loudness/brightness is proportional to log of actual intensity measured with an accurate nonhuman instrument. E.g. You have to shout in a noisy environment to be heard.
94	<u>Well travelled road effect</u>	Underestimation of the duration taken to traverse oft-traveled routes and overestimation of the duration taken to traverse less familiar routes.	It always seems that it takes longer to travel to a new destination than it would be the drive home
95	<u>Zero-risk bias</u>	Preference for reducing a small risk to zero over a greater reduction in a larger risk.	Example a man is absurdly concerned about the safety issues of his car that he is driving, but then he smokes a pack of cigarette a day. On the one hand, he is risk-averse regarding vehicle safety, but he is risk-embracing when it comes to the personal health issue of cigarette smoking
96	Zero-sum heuristic	Intuitively judging a situation to be zero-sum (i.e., that gains and losses are correlated). Derives from the zero-sum game in <u>game theory</u> , where wins and losses sum to zero. ^{[73][74]} The frequency with which this bias occurs may be related to the <u>social dominance orientation</u> personality factor.	A study published in the Journal of Consumer Research found that consumers perceive products that emphasize a single attribute—like a laundry detergents ‘powerful stain removal’ as superior over a product promising both ‘powerful stain removal’ and another attribute, like ‘protection against fading. The all in one product is seen as inferior if priced the same as the specialty product. Shoppers apply what Marketing Professor Alexander Chernev of Northwestern University’s Kellogg School of Management calls a “zero-sum heuristic” to their buying decisions.

Most of these biases are labeled as [attributional biases](#).

	Name	Description	
97	Actor-observer bias	The tendency for explanations of other individuals' behaviors to overemphasize the influence of their personality and underemphasize the influence of their situation (see also Fundamental attribution error), and for explanations of one's own behaviours to do the opposite (that is, to overemphasize the influence of our situation and underemphasize the influence of our own personality).	The self-serving bias is often formulated as a complete reversal in actors' and observers' explanation tendencies as a function of positive vs. negative events.[27] In traditional attribution terms, this means that for positive events (e.g., getting an A on an exam), actors will select explanations that refer to their own dispositions, (e.g., "I am smart") whereas observers will select explanations that refer to the actor's situation (e.g., "The test was easy"); however, for negative events (e.g., receiving an F on the exam), actors will select explanations that refer to the situation, (e.g., "The test was impossibly hard") whereas observers will select explanations that refer to the actor's dispositions (e.g., "She is not smart enough").
98	Defensive attribution hypothesis	Attributing more blame to a harm-doer as the outcome becomes more severe or as personal or situational similarity to the victim increases.	Rape trial: Females who may perceive the possibility of being raped themselves, may decrease the responsibility of the victim in order to avoid blame if it should happen to them. A study that varied the similarity of a rape victim to college student subjects found that subjects were less likely to assign responsibility when the victim was a similar student than when the victim was a dissimilar housewife. Passenger riding in the car of a drunk driver who got in a car accident – blaming the driver for drinking and not themselves for riding in the car knowing the driver was drunk.
99	Egocentric bias	Occurs when people claim more responsibility for themselves for the results of a joint action	I won the game for the team by scoring the last decisive goal in a 3-2 soccer game.

		<p>than an outside observer would credit them with.</p>	
<p>100</p>	<p><u>Extrinsic incentives bias</u></p>	<p>An exception to the <i>fundamental attribution error</i>, when people view others as having (situational) extrinsic motivations and (dispositional) intrinsic motivations for oneself</p>	<p>How the public sees politicians.</p> <p><u>MBA</u> students were asked to rank the expected job motivations of <u>Citibank customer service representatives</u>. Their average ratings were as follows:</p> <ol style="list-style-type: none"> 1. Amount of pay 2. Having job security 3. Quality of fringe benefits 4. Amount of praise from your supervisor 5. Doing something that makes you feel good about yourself 6. Developing skills and abilities 7. Accomplishing something worthwhile 8. Learning new things <p>Actual customer service representatives rank ordered their own motivations as follows:</p> <ol style="list-style-type: none"> 1. Developing skills and abilities 2. Accomplishing something worthwhile 3. Learning new things 4. Quality of fringe benefits 5. Having job security 6. Doing something that makes you feel good about yourself 7. Amount of pay 8. Amount of praise from your supervisor <p>The order of the predicted and actual reported motivations was nearly reversed; in particular, pay was rated first by others but near last for respondents of themselves.</p>

101	<u>False consensus effect</u>	The tendency for people to overestimate the degree to which others agree with them. ^[75]	Everyone agrees that Jesus is the son of God. To a Muslim, people should believe Mohammad is the last prophet.
102	<u>Forer effect</u> (aka Barnum effect)	The tendency to give high accuracy ratings to descriptions of their personality that supposedly are tailored specifically for them, but are in fact vague and general enough to apply to a wide range of people. For example, <u>horoscopes</u> .	For example, while reading the horoscope, people actively seek a correspondence between their perception of their personality and the contents of a horoscope. This shows how easy it is to be fooled by psychics, quack psychotherapists, fake faith healers, and others who use this technique to make people think that they really know and understand them when in fact it is just a "Spiel" or "game, played as a prank."
103	<u>Fundamental attribution error</u>	The tendency for people to over-emphasize personality-based explanations for behaviors observed in others while under-emphasizing the role and power of situational influences on the same behavior (see also actor-observer bias, <u>group attribution error</u> , positivity effect, and <u>negativity effect</u>). ^[76]	For example, if someone cuts in front of you in line, your immediate reaction is, "This person is a complete jerk!" But in reality, maybe he <i>never</i> cuts into lines and is doing it this time only because he is about to miss his plane, the one he's taking to be with his mother, who is on the verge of death.
104	<u>Group attribution error</u>	The biased belief that the characteristics of an individual group member are reflective of the group as a whole or the tendency to assume that group decision outcomes reflect the preferences of group members,	Business meetings are a minefield of bias and false attribution, often with decisions forced by individual members. Yet the whole team may well be seen as owning the decision, including by themselves and by others. If you hang out with a group of bully, people may think you are bully too.

		even when information is available that clearly suggests otherwise.	
105	<u>Halo effect</u>	The tendency for a person's positive or negative traits to "spill over" from one personality area to another in others' perceptions of them (see also <u>physical attractiveness stereotype</u>). ^[77]	<p>If a chef is famous for making one particular dish, then the halo effect allows people to assume that he can cook anything with equal proficiency.</p> <p>A tall or good-looking person will be perceived as being intelligent and trustworthy, even though there is no logical reason to believe that height or looks correlate with smarts and honesty.</p> <p>A classic example of the halo effect is the relationship between the Mac notebooks and iPod. When the iPod was released, there was <u>speculation in the market place</u> that the sales of Apple's Mac laptops would increase, because of the success of the iPod. The belief was based on the halo effect, as customers who had a great experience with the iPod would buy a Mac simply because it is made by Apple Inc.</p>
106	<u>Illusion of asymmetric insight</u>	People perceive their knowledge of their peers to surpass their peers' knowledge of them. ^[78]	<p>We commonly believe that we understand others better than they understand us.</p> <p>The rationale for this stems from our external, objective viewpoint and the assumption that the other person has a significant <u>blind self</u>, whilst our own blind self is small.</p> <p>There is also asymmetry in the reverse situation -- we believe we understand ourselves better than others understand us and may feel insulted if they try to show they understand us more than we do.</p> <p>The same effect happens for groups, where the in-group believes they understand out-groups better than out-groups understand them.</p> <p>Overall, this is a position where we generally assume we know more than others</p> <p>Example</p> <p>In an argument with another person you tell them what they are like in great detail because clearly</p>

			they have very little self-knowledge. They argue back telling you things about yourself that are clearly wrong or that you knew anyway. How can people be so stupid?
107	<u>Illusion of external agency</u>	When people view self-generated preferences as instead being caused by insightful, effective and benevolent agents	God must have instructed Mother Theresa to go to India Gilbert et al. argued that "participants confused their own optimization of subjective reality with an external agents' optimizing of objective reality. Simply speaking, participants mistook 'the magic in here' for 'the magic out there.'"
108	<u>Illusion of transparency</u>	People overestimate others' ability to know them, and they also overestimate their ability to know others.	She would tap out a well-known song, such as "Happy Birthday" or the national anthem, with her finger and have the test subject guess the song. People usually estimate that the song will be guessed correctly in about 50 percent of the tests, but only 3 percent pick the correct song. The tapper can hear every note and the lyrics in his or her head; however, the observer, with no access to what the tapper is thinking, only hears a rhythmic tapping. e.g. our syllabus is so clear and lucid, why doesn't our student get it?
109	<u>Illusory superiority</u>	Overestimating one's desirable qualities, and underestimating undesirable qualities, relative to other people. (Also known as "Lake Wobegon effect", "better-than-average effect", or "superiority bias".) ^[79]	Ever feel that you're surrounded by idiots? Feel like everyone else has their IQ in the single digits? Then perhaps, you've got a case of illusory superiority! Either that or the people around you really are idiots. I am a consultant and am therefore more knowledgeable about most areas than all of my clients. I am also cleverer than most other consultants.
110	<u>Ingroup bias</u>	The tendency for people to give preferential treatment to others they perceive to be members of their own groups.	In schools, where groups or gangs are formed, and those who are not a part of a group are treated in a harsh manner. Those from one's own religion are favoured over those from other religions.

			<p>Rivalry between the fans of two teams in any sports.</p> <p>Rivalry between political parties.</p>
111	<u>Just-world hypothesis</u>	<p>The tendency for people to want to believe that the world is fundamentally just, causing them to rationalize an otherwise inexplicable injustice as deserved by the victim(s).</p>	<p>A coping strategy that buffers stress associated with daily life and with traumatic events.</p> <p>"You got what was coming to you", "What goes around comes around", "chickens come home to roost", and "You reap what you sow".</p> <p>This tendency to blame the victim is why I never talk about karma; also known as determinism (things are already determined) or fatalism (it is fate).</p>
112	<u>Moral luck</u>	<p>The tendency for people to ascribe greater or lesser moral standing based on the outcome of an event</p>	<p>John gave money to a bum who used it to buy food. Later John gave money to a bum who used it to buy dope. Which bum John encounters is entirely luck. Yet, John is praised for his charity in the former case but criticized for his poor judgement in the latter</p>
113	<u>Naïve cynicism</u>	<p>Expecting more <i>egocentric bias</i> in others than in oneself</p>	<p>e.g. Iran will not accept a nuclear treaty that is not in their best interest, and if it is in their best interests, it can't be in our best interest.</p> <p>e.g. Married couples were asked to estimate how often their partner was responsible for both desirable and undesirable relationship events. They estimated 50/50. Then, each person was asked to estimate what their partner had claimed. On average people assumed their partners would take more responsibility for the good events and deny the bad events.</p>
114	<u>Naïve realism</u>	<p>Naïve realism, also known as direct realism or common sense realism is direct awareness of the external world.</p>	<p>Though naïve realism maybe plausible, it has serious problem; that is the problem of variability of perception.</p> <p>Such as what we perceive is often dependent on our organs of perception and their condition. If we had compound eyes, as flies do, we would receive information about the visual world in a completely different form. If we were blind, things would not</p>

			have looks. Pls. refer to AWE lecture Perception of Reality.
115	<u>Outgroup homogeneity bias</u>	Individuals see members of their own group as being relatively more varied than members of other groups. ^[80]	For example, a woman who lives in a big city might believe that everyone from the country or a small town is stupid, whereas she thinks that people from the city can be smart, stupid, or something in between. When the woman meets a small town person who is very intelligent, she considers him or her an exception to the norm.
116	<u>Projection bias</u>	The tendency to unconsciously assume that others (or one's future selves) share one's current emotional states, thoughts and values. ^[81]	Johnny has always been a bad boy and when he grows up he will not amount to anything. Jane is shy, she will never go partying.
117	<u>Self-serving bias</u>	The tendency to claim more responsibility for successes than failures. It may also manifest itself as a tendency for people to evaluate ambiguous information in a way beneficial to their interests (see also <u>group-serving bias</u>). ^[82]	By blaming outside forces for failures, people protect their self-esteem and excuse themselves from personal responsibility. Example: After a disastrous meeting with a potential client, a businessman blames losing the account on a competitor's dirty business practices. I made money from the stock market because I was smart. That time when I lost money was only because of an expected war causing economic downturn.
118	<u>Shared information bias</u>	Known as the tendency for group members to spend more time and energy discussing information that all members are already familiar with (i.e., shared	In Canada, we talked about hockey and football rather than soccer and cricket.

		information), and less time and energy discussing information that only some members are aware of (i.e., unshared information). ^[83]	
119	<u>System justification</u>	The tendency to defend and bolster the status quo. Existing social, economic, and political arrangements tend to be preferred, and alternatives disparaged, sometimes even at the expense of individual and collective self-interest. (See also status quo bias.)	Universal health care versus two tier health system. Reluctance to green energy policies to fight global warming, stay with the oil industry
120	<u>Trait ascription bias</u>	The tendency for people to view themselves as relatively variable in terms of personality, behavior, and mood while viewing others as much more predictable.	Blonds have pea brains.
121	<u>Ultimate attribution error</u>	Similar to the fundamental attribution error, in this error a person is likely to make an internal attribution to an entire group instead of the individuals within the group.	The teacher punished the whole class for being unruly and noisy but actually about 1/3 of the students was making a riot.

122	<u>Worse-than-average effect</u>	A tendency to believe ourselves to be worse than others at tasks which are difficult ^[84]	I always think my wisdom is not good until I look at the Buddhism homework that some of my classmates handed in
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Memory errors and biases [\[edit\]](#)

Main article: [List of memory biases](#)

In [psychology](#) and [cognitive science](#), a **memory bias** is a [cognitive bias](#) that either enhances or impairs the recall of a [memory](#) (either the chances that the memory will be recalled at all, or the amount of time it takes for it to be recalled, or both), or that alters the content of a reported memory. There are many types of memory bias, including:

	Name	Description	
123	<u>Bizarreness effect</u>	Bizarre material is better remembered than common material.	By inserting the song “Where do I begin” in my PowerPoint will make audience remember my presentation.
124	<u>Choice-supportive bias</u>	In a self-justifying manner retroactively ascribing one's choices to be more informed than they were when they were made.	<p>If a person chooses option A instead of option B, they are likely to ignore or downplay the faults of option A while amplifying those of option B. Conversely, they are also likely to notice and amplify the advantages of option A and not notice or de-emphasize those of option B.</p> <p>People choose traditional Buddhism instead of AWE modern Buddhism.</p> <p>We did this bias before? Yes we did. Restaurant A was OK we had a good time even though the food was bad and we did not go to Restaurant B.</p>
125	Change bias	After an investment of effort in producing change, remembering one's past performance as more difficult than it actually was ^[85] [unreliable source?]	A common example is when we're trying to learn a new skill. If we put loads of effort in to learning that new skill, we often think our improvement is much greater than it really is.

126	<u>Childhood amnesia</u>	The retention of few memories from before the age of four.	I used to love eating broccoli when I was young.
127	Conservatism or Regressive bias	Tendency to remember high values and high likelihoods/probabilities/frequencies as lower than they actually were and low ones as higher than they actually were. Based on the evidence, memories are not extreme enough. ^{[26][27]}	I remember in the Vietnam war, hundreds of thousands were killed (actual number 1.353 million, therefore high number remembered as lower). I lost about \$50 at the casino (actual loss is \$42, therefore, low value remembered as high)
128	Consistency bias	Incorrectly remembering one's past attitudes and behaviour as resembling present attitudes and behaviour. ^[86]	30 years ago, I believed in God. Now my belief in God has changed. If you ask me to refer back 30 years ago; I still say my belief in God back then was not very strong. If a couple's relationships had improved in a period of time, then they tended to assume it had always been that way.
129	<u>Context effect</u>	That cognition and memory are dependent on context, such that out-of-context memories are more difficult to retrieve than in-context memories (e.g., recall time and accuracy for a work-related memory will be lower at home, and vice versa)	https://ca.answers.yahoo.com/question/index?qid=20080718100447AA5QrDq it doesn't matter in what order the letters in a word are, the only important thing is that the first and last letter be at the right place.
130	<u>Cross-race effect</u>	The tendency for people of one race to have difficulty identifying members of a race other than their own.	All Chinese look alike to a westerner
131	<u>Cryptomnesia</u>	A form of <i>misattribution</i> where a memory is mistaken for imagination, because there is no subjective experience of it being a memory. ^[85]	People are more likely to falsely claim ideas as their own. Example: Bright Tunes Music v. Harrison's Music, where the publisher of "He's So Fine", written by Ronald Mack, demonstrated to the court that George Harrison borrowed substantial portions of his song "My Sweet Lord" from "He's So Fine".

132	<u>Egocentric bias</u>	Recalling the past in a self-serving manner, e.g., remembering one's exam grades as being better than they were, or remembering a caught fish as bigger than it really was.	For example, if you talk to students after they've gotten their grades back on an exam and ask them if it was a good test of their abilities, they'll say it was if they did well. But if they did poorly, they will tell you it was a rotten exam.
133	<u>Fading affect bias</u>	A bias in which the emotion associated with unpleasant memories fades more quickly than the emotion associated with positive events. ^[87]	A mother's pain during labor quickly fades away at the arrival of the baby.
134	<u>False memory</u>	A form of <i>misattribution</i> where imagination is mistaken for a memory.	Feeling confident is no guarantee that a particular memory is correct. Half a dozen eye witnesses at the Ferguson shooting of Michael Brown (a young black man) gave conflicting testimonies.
135	<u>Generation effect (Self-generation effect)</u>	That self-generated information is remembered best. For instance, people are better able to recall memories of statements that they have generated than similar statements generated by others.	<p>The generation effect is a phenomenon where information is better remembered if it is generated from one's own mind rather than simply read. That is why Dr. Lo always require his students to explain what they have learnt in their own words, not in his words or from the text book.</p> <p>Example- Who is on the Canadian loony and which way is he facing? You probably will guess (although you have handled a quarter many times), but if you have drawn the coin several times you would remember better.</p>
136	<u>Google effect</u>	The tendency to forget information that can be found readily online by using Internet search engines.	<p>The Google effect, also called digital amnesia. In most cases, people could not remember important information such as telephone numbers that should have been familiar, leading to the conclusion that they forgot the information because of the ease of finding it using devices.</p> <p>e.g. Like the saying: Easy come easy go.</p>

137	<u>Hindsight bias</u>	The inclination to see past events as being more predictable than they actually were; also called the "I-knew-it-all-along" effect.	Mr. and Mrs. Smith just got divorced. I know that marriage won't last even on their wedding day.
138	Humor effect	Humorous items are more easily remembered than non-humorous ones, which might be explained by the distinctiveness of humor, the increased cognitive processing time to understand the humor, or the emotional arousal caused by the humor. ^[88]	There are 3 ways a man can wear his hair: parted, un-parted and departed Versus Men can wear their hair with or without a part, unless they are bald. The former is better remembered.
139	<u>Illusion of truth effect</u>	That people are more likely to identify as true statements those they have previously heard (even if they cannot consciously remember having heard them), regardless of the actual validity of the statement. In other words, a person is more likely to believe a familiar statement than an unfamiliar one.	The USA invaded Iraq by saying repeatedly "Saddam Husain has weapons of mass destruction" and the whole world believed until no such weapon was found after Iraq was conquered.
140	<u>Illusory correlation</u>	Inaccurately remembering a relationship between two events. ^{[4][5]}	A man saw a monk before going into the casino and he lost. The man now believes seeing monk is bad luck for gambling
141	Lag effect	See spacing effect .	See item 160. In nature and climate, bigger systems often display more pronounced lag effects. The Arctic Sea Ice minimum is on September 17, three months after the peak in daylight (sunshine) hours in the northern hemisphere, according to NASA. ^[1] For example, economists have found that in some circumstances there is a lead-lag effect between large-capitalization and small-capitalization stock-portfolio prices. ^[2]