Want to practice better decision making?

Unfortunately, your natural brain's pretty dumb and easily tricked. To save energy and make faster decisions, it relies on cognitive heuristics to make fast judgments.

In prehistoric days when we had to avoid getting devoured by lions, these fast heuristics worked pretty well. Now that life is more complex, the decisions you need to make are more complex, and your cognitive biases trick you into making bad decisions.


By learning these biases, you'll guard yourself against people trying to exploit you. Even better, you'll guard against your worst enemy: your own brain.

How Learning These 25 Cognitive Biases Will Help You

When's the last time you stuck to a bad decision far longer than you should have?

When's the last time you got excited about buying something you really didn't need?
When's the last time you over-confidently thought you were really good at something - and it turns out you were terrible?

When's the last time your infatuation - with somebody, something, or even just an idea - made you ignore all the negatives?

Cognitive biases were at work, morphing your view of reality and causing you to make really bad decisions. Your biases make you ignore really valuable data and over-emphasize faulty data.

By being aware of your cognitive biases, you can take a step back, gather more information, and practice more objective decision making. Making better decisions will ultimately improve your life.

Just as valuable - learning the major cognitive biases also helps you understand other people's behavior. Why do stock market booms and busts happen? Why do normal-seeming people join cults? Why is it so hard for political opponents to meet in the middle? Why is Facebook so addictive?

Understanding biases will help you unpack why ordinary people can fall into extreme behaviors. At the end of this article, we'll analyze how cults are so insidiously effective at converting new believers.

How This List of Cognitive Biases Works

For each of Charlie Munger's 25 cognitive biases, I explain these bullet points:

- **AKA**
  - Charlie Munger often groups some cognitive biases under a single umbrella term. I list the formal psychological names for related biases you may have heard of.

- **What it is**
  - How this bias changes your decision making

- **Why it evolved**
  - Why the bias might have arisen during human evolution

- **How it can be harmful**
  - How this bias leads to poor decisions or how it can be exploited to change your behavior

- **Examples**
  - Examples of the bias at work

- **Antidotes**
  - Actionables on how to avoid the bad behavior

Charlie's Reason for Interest in Psychology

In Poor Charlie's Almanack, Charlie Munger explains why humans are just advanced animals, and why we're so psychologically flawed, leading to these 25 cognitive biases.
• Man is a ‘social animal,’ greatly and automatically influenced by behavior he observed in men
around him. I also knew that man lived, like barnyard animals and monkeys, in limited size
dominance hierarchies, wherein he tended to respect authority and to like and cooperate with his
own hierarchy members while displaying considerable distrust and dislike for competing men not
in his own hierarchy.”
• “Extreme success of the ants also fascinated me— how a few behavioral algorithms caused such
extreme evolutionary success grounded in extremes of cooperation within the breeding colony
and, almost always, extremes of lethal hostility toward ants outside the breeding colony, even ants
of the same species.”
• “The limitations inherent in evolution’s development of the nervous-system cells that control
behavior are beautifully demonstrated by these insects, which often have a mere 100,000 or so
cells in their entire nervous systems, compared to man’s multiple billions of cells in his brain
alone.” “In the ant’s case, the behavioral algorithms are few in number and almost entirely
genetic in origin. The ant learns a little behavior from experiences, but mostly it merely responds
to ten or so stimuli with a few simple responses programmed into its nervous system by its
genes.”
• “It seems obvious, to me at least, that the human brain must often operate counterproductively just
like the ant’s, from unavoidable oversimplicity in its mental process.”
• “Man is easily fooled, either by the cleverly thought out manipulation of man, by circumstances
occurring by accident, or by very effective manipulation practices that man has stumbled into
during “practice evolution” and kept in place because they work so well.”
• Put one hand in hot water, one in cold water, then put both in the same temperature warm water.
“Now one hand feels as if it has just been put in cold water and the other hand feels as if it has just
been placed in hot water. When one thus sees perception so easily fooled by mere contrast, where
a simple temperature gauge would make no error, and realizes that cognition mimics perception in
being misled by mere contrast, he is well on the way toward understanding, not only how
magicians fool one, but also how life will fool one.”
• Being aware of biases is not a perfect defense. Charlie loves checklists.

Bias 1: Reward and Punishment Superresponse Tendency

• AKA
  ◦ Incentive-caused bias
  ◦ Agency cost
• What it is
  ◦ Self-interest and rewards drive behavior
  ◦ Behaviors are conditioned by prompt rewards given after an action
  ◦ Once a behavior is conditioned, random distribution of rewards keeps the reflexive
    behavior in place the longest
  ◦ Incentives cause bias, consciously or subconsciously.
  ◦ Man tends to game all human systems.
  ◦ Common incentives are money, friendship, sex, advancement in status.
  ◦ Punishments also inhibit bad behavior
Why it evolved
- The brain has an algorithm: “Repeat behavior that works.” Here, “works” means “rewards.” Why would the brain evolve any differently?

How it can be harmful
- Poorly designed incentives will cause bad behaviors. In pursuit of his own self-interest, man will rationalize bad behavior.
  - One surgeon excised normal gallbladders. Did this surgeon think, ‘I can get some easy cash by fraudulently excising gallbladders?’ No, “he thought the gallbladder was the source of all medical evil, and if you really loved your patients, you couldn’t get that organ out rapidly enough.”
- Bad behaviors become intensely habit-forming when they are rewarded (especially because of inconsistency-avoidance tendency, another of the 25 cognitive biases).

Examples
- Fedex couldn’t get all packages done in late night shifts. They tried a lot of things. Finally, they changed to pay per shift, rather than pay per hour, and the shifts took care of themselves.
- Expert advisers recommending things that help themselves
  - “I have never seen a management consultant’s report that didn’t end with the same advice: “This problem needs more management consulting services.”
  - “Whose bread I eat, his song I sing” – recall Arthur Andersen of Enron
- Government changes from cost-plus contracts to fixed fee contracts.
- “Most capitalist owners in a vast web of free market economic activity are selected for ability by surviving in a brutal competition with other owners and have a strong incentive to prevent all waste in operations within their ownership. After all, they live on the difference between their competitive prices and their overall costs and their businesses will perish if costs exceed sales. Replace such owners by salaried employees of the state and you will get a substantial reduction in overall efficiency as each employee who replaces an owner is subject to incentive-caused bias as he determines what service he will give in exchange for his salary and how much he will yield to peer pressure from many fellow employees who do not desire his creation of any strong performance model.”
- Punishments
  - A European tribe that killed the last warrior to assemble to his assigned place. “No one enjoyed fighting this tribe.”
  - Munger likes the Navy rule of a ship captain being decommissioned if his boat ran aground. Not totally fair, but sets the stage for everyone else.
  - “A rich person will often, through habit, work or connive energetically for more money long after he has almost no real need for more”

Antidotes
- Don’t reward behaviors you don’t want. Don’t design terrible incentive structures.
- Fear professional advice, especially when it is good for the advisor.
- Learn and use the basic elements of your advisor’s trade as you deal with your advisor.
- Double check, disbelieve, or replace much of what you’re told.
- To ward off employee bad behavior, use audits and sound accounting theory and practice.
  - Cash registers deter employee theft
  - Public punishment for misbehaving employees
- To ward off employer bad behavior:
Bias 2: Liking/Loving Tendency

- **Unions**
- **Regulation**
  - Granny’s rule: “Eat your carrots before you get dessert.”
- **How to use it**
  - “If you would persuade, appeal to interest and not to reason.” – Ben Franklin
  - Dale Carnegie’s *How to Win Friends and Influence People* teaches you to make others feel important and appeal to their self-interest

**Bias 2: Liking/Loving Tendency**

- **AKA**
  - Halo effect
  - Association fallacy
- **What it is**
  - Humans tend to like and love things and people, especially mothers, much like goslings attach to whatever is there at birth.
  - People like and love being liked and loved.
  - For the object of your affection, you ignore his/her/its faults and comply with his/her/its wishes.
  - You favor people, products, and actions associated with the object of your affection.
  - People who are physically attractive tend to be rated higher in intelligence and competence.
  - Also works in reverse – a quality you admire in someone intensifies the feeling of liking and loving. This can build extreme feedback loops, as liking further intensifies the admiration for those qualities and ignores faults. Inconsistency-avoidance tendency keeps this further entrenched.
- **Why it evolved**
  - Attachment to parents promotes learning and safety for child
  - Reciprocal liking between people allows social cohesion
  - It’s cognitively simpler to take one attribute you like about someone (e.g. looks) and extend that to other qualities about the person.
- **How it can be harmful**
  - You can ignore the real faults of the object of your affection.
  - In extreme cases, affection can be so strong you self-harm to attain what is loved.
  - Because you like being loved, you pursue paths that make other people admire you, rather than the optimal choice for yourself. Like making popular but wrong decisions as a manager, or pursuing a respectable but dull career path.
- **Examples**
  - Advertising associating products with popular figures
  - Warren and Charlie both liked Warren’s uncle, Fred Buffett, the grocery store owner, which set a positive example.
- **Antidotes**
  - Put good admirable people in situations where people are prone to like/love, like teaching.
Explicitly recognize your desire to be liked/loved, and control for that in decision making.
Think about what you like about the person, and how predictive this is about the person's other qualities.
Invert, always invert – what do you dislike most about an object of your affection? What are all the ways it can go wrong?

Bias 3: Disliking/Hating Tendency

- **AKA**
  - Reverse halo effect
- **What it is**
  - Humans tend to dislike and hate things and people.
  - You ignore virtues in the object of dislike.
  - You dislike people, products, and actions associated with the object of dislike.
  - You distort facts to facilitate hatred.
- **Why it evolved**
  - Possibly the dislike of an “other” group promoted resource seizing/conquest and thus enhanced survival.
- **How it can be harmful**
  - Ignoring virtues can further intensify dislike, causing feedback loops
  - Riots can progressively widen until there is no common ground, and agreements are harder to achieve. Inconsistency-avoidance tendency (another of the 25 cognitive biases) keeps this further entrenched.
  - Judgments can be made without consideration of full facts
  - Fixating on competition rather than growing the pie or moving to another market. This occurs because the emotional reaction to hating is so strong.
  - You tend to underestimate your competition (commonly maligning incumbents as “dinosaurs” when in reality they can easily crush you if they chose).
- **Examples**
  - Negative political advertising, and treatment of opposing political candidates
  - Says Munger: When World Trade Center was destroyed, many Pakistanis concluded the Hindus did it, many Muslims concluded the Jews did it.
  - Really, pick anything you strongly dislike, and see how many good things you can say about it
- **Antidotes**
  - Invert, always invert – what can you find to like about an object of your hatred? How can you come to accept this object? What does the best case scenario look like?
  - Respect your adversaries as people who are highly competent with many virtues, whom we will respect and target with our own strengths and virtues until they are defunct.
Bias 4: Doubt-Avoidance Tendency

- **AKA (none)**
- **What it is**
  - Doubt is painful, causing puzzlement and stress, so you reach a decision more quickly than a fully considered decision would take.
  - Plodding down your current path is psychologically easier than doubting the path and potentially causing upheaval. This is strengthened by inconsistency-avoidance tendency.
- **Why it evolved**
  - Doubting your actions for too long gets you eaten by a tiger.
- **How it can be harmful**
  - You make poorly considered decisions to remove doubt.
  - You perpetuate poor decisions, because doubting your current path causes more turmoil and stress. This is strengthened by inconsistency-avoidance tendency (next on this list of 25 cognitive biases).
- **Examples**
  - Religion is a way to answer existential doubt and ease stressful situations. It provides answers to your life’s problems if you can just believe.
  - Countering the inertia of your business is tough. Pivoting a company, letting go employees who have been around for a long time, stopping a strategy that’s not working – all these introduce doubt and the easier thing is to just perpetuate the action.
- **Antidotes**
  - Schedule deliberate delays before making decisions, like in jury trials and “sleeping on it.”
  - Build yourself the luxury of patience. Warren and Charlie are content to sit for a long time until they see a great deal. Having a larger resource buffer helps with patience.

Bias 5: Inconsistency-Avoidance Tendency

- **AKA**
  - Confirmation bias
  - Cognitive inertia
  - Status quo bias
  - Cognitive dissonance
  - Sunk cost fallacy
  - System justification
- **What it is**
  - People are reluctant to change. This applies to personal behavior, beliefs, relationships, commitments.
  - Habit changing is hard, despite people knowing their habits are bad.
  - “The human mind works a lot like a human egg. When one sperm gets into a human egg, there’s an automatic shut-off device that bars any other sperm from getting in.”
  - Repeated exposures to the same belief reinforces it.
    - “See one, do one, teach one” pounds the learning into the teacher.
When your behavior conflicts with a prior belief, you correct your beliefs to accommodate the new behavior.

- Doing a favor for someone you dislike improves your rating of that person (Ben Franklin's technique).
- Being forced to harm someone makes you dislike the person.
- Making big sacrifices to assume a new identity will intensify devotion to that new identity.
  - Related to sunk cost fallacy and cognitive dissonance (“I suffered a lot of pain to become a doctor, and I wouldn’t do this if I weren’t really excited about being a doctor, so I must love being a doctor.”)

**Why it evolved**

- Keeping the same behavior conserves brain programming space and allows faster decision making. It's too crippling to question every single decision you have to make every day.
- It preserves social cohesion by maintaining social roles and responses.
  - People stay loyal to their roles as citizens, soldiers, teachers, physicians, etc.

**How it can be harmful**

- Early-formed habits may be destiny, since they are so hard to change.
- Pushing beliefs on children (political, religious) can be permanently damaging.
- Bad decision making caused by other biases can be locked in for good.
  - Doubt-avoidance tendency causes a bad decision; inconsistency-avoidance tendency perpetuates that decision.
  - Disliking tendency starts a perpetual feedback loop where you dislike a person minorly, then to minimize inconsistency, you see progressively fewer virtues about the person to maintain the belief. (We're starting to see how the 25 cognitive biases reinforce each other to create strong behaviors)

**Examples**

- “An older Einstein never accepted the full implications of quantum mechanics.”
- Hazing rituals as initiations into groups strengthen the tie (through cognitive dissonance – “there’s no way I would go through that if I weren’t really into the group.”)
- Ben Franklin asked a small favor of someone who disliked him, like borrowing a book; this made the man trust Franklin more since disliking Franklin would be inconsistent with doing him a favor.
- Prisoner abuse by guards: prisoners are treated like animals and instigate retaliation from guards. To be consistent, guards then feel they must hate the prisoners. This causes worse action and perpetuates the cycle.

**Antidotes**

- Consider counterarguments to your position before making decisions. In fact, you should actively seek out opposition to your favorite ideas.
  - Jury trials force listening of both sides before a verdict.
  - Stress-test your ideas with a trusted group of thinkers.
- An ounce of prevention is a pound of cure. Don’t start smoking or gambling, particularly in response to doubt or a problem (like unhappiness).
- Invert, always invert – for things you hold sacred, ask yourself, “what if this weren’t true? What if this doesn’t work?”
- To correct your bad habits, force yourself to act in behaviors that that contradict your beliefs. You will then have to correct your beliefs.
  - If you hate a political opponent, force yourself to know and like someone who
follows the opponent. This will help you see the virtue in the other side and correct your hating tendency.

- “Fake it til you make it” – picture the kind of person you want to be and act in accordance with that. For example, “I’m the type of person who likes waking up and exercising.” Your behavior will rectify your prior self-belief (“I’m a lazy no good nothing”) so that you eventually believe you become the type of person you want to be.
  - Reorient your beliefs about yourself around objectivity. For instance, “I am the person who is always right” to “I am the person who finds the truth” or “I am the person who thinks everyone has something to offer.” You will then start to act according to those beliefs.

### Bias 6: Curiosity Tendency

- AKA (none)
- What it is
  - Humans tend to be curious, even more so than monkeys and mammals.
  - Curiosity helps prevent bad consequences from other psychological tendencies.
- Why it evolved
  - Curiosity likely helped discover new food sources and other pro-survival things.
- How it can be harmful
  - Curiosity can be exploited by behavior loops, like Facebook’s never ending feed promoting endless scrolling up. These dopamine rewards in conjunction with inconsistency-avoidance tendency make the habit hard to extinguish.
- Examples
  - Athens developed math and science out of curiosity, while the Romans focused on practical engineering of mines, aqueducts, etc.
- Antidotes
  - For productive learning, none is needed.
  - For destructive novelty-seeking (e.g. Facebook, news, Reddit), think about how you're spending your time and whether there's a better use for it. Build [good habits of deep work](#) to relieve yourself of your addiction.

### Bias 7: Kantian Fairness Tendency

- AKA
  - Golden rule
- What it is
  - Humans follow behaviors that, if followed by all others, make the surrounding human system work best for everybody.
  - When such courtesies are withheld, other parties get very upset.
- Why it evolved
  - Social cohesion in reciprocated behaviors.
- How it can be harmful
  - Excessive fairness can create systems that incentivize poor behavior.
    - Charlie mentions workplace injury compensation schemes that reward fraudulent injuries. He suggests having no workplace injury comp, period.
    - Charlie also likes the Navy rule of being dismissed as an officer if you run your ship aground – not fair in all circumstances, but certainly prevents ships from being run aground.
    - Paying everyone the same amount leads to productivity stagnation and dragging to the lowest common denominator.
  - Violation of Kantian fairness could lead to dislike/hating tendency taking over without understanding the underlying motives.
- Examples
  - Letting people go first at stop signs and one-way bridges.
  - Anger felt when someone cuts in line.
  - Kahneman: An employee is hired at $9 per hour, but the market rate drops to $7 per hour. It’s considered unfair to change the employee’s rate just to meet market labor rates. But if the employee leaves, it’s acceptable to pay the new employee $7 per hour.
- Antidotes
  - Design good incentive systems that leave fairness out of play and reward productivity.

Bias 8: Envy/Jealousy Tendency

- AKA (none)
- What it is
  - Wanting something that someone else has
  - Fearing that what you have will be taken away
- Why it evolved
  - Humans need food to survive. Seeing someone else have food, if you don’t have any yourself, makes you want to take the food for yourself.
- How it can be harmful
  - In conjunction with disliking/hating tendency, envy can lead to resentment and hate.
  - Envy/jealousy are seen as childish emotions to have, so it’s taboo to accuse others of it in resolving problems. So the problem goes unsolved.
  - “It is not greed that drives the world, but envy.” – Warren Buffett
- Examples
  - Anger at unequal distribution of wealth
  - Systems that compensate all partners the same, regardless of productivity
  - Sibling jealousy or resources and attention
  - Absolute increases in well-being (e.g. a salary raise) quickly turn sour when you hear someone else got a higher raise.
- Antidotes
Kantian fairness tendency opposes this. "People deserve what they get."

Generally be happy with what you have rather than calibrating to other people. Jordan Peterson: "Compare yourself to who you were yesterday, not to who someone else is today."

**Bias 9: Reciprocation Tendency**

- **AKA**
  - Foot in door technique
- **What it is**
  - Humans reciprocate both favors and disfavors. "An eye for an eye" in the negative case (or reciprocate-disfavor).
  - You don't treat other humans nicely just because they're the same species. Ants fight intra-species members who are not part of their breeding group. This suggests there is no general algorithm that makes intraspecies "turn-the-other-cheek" behavior helpful for species survival.
  - Thus it's not obvious that abandoning "an eye for an eye" helps countries survive. If ignoring reciprocate-disfavor behavior is good, man will need a lot of heavy psychological work since our genes are of little help.
  - Dovetails with inconsistency-avoidance in fulfilling promises made as part of a deal (as in marriage).
  - Asking someone for a huge favor (and getting rejected) then making a concession increases the compliance rate.
    - Asking people to supervise a group of juvenile delinquents on trip to zoo gets 1/6 agree rate. Asking people to supervise the group weekly for 2 years gets 0% acceptance rate, but then lowering this to one afternoon gets rate up to ½ agree rate.
    - The participants were anchored to the 2 year span, so the concession seemed valuable and was reciprocated with kindness.
- **Why it evolved**
  - Group cooperation and mutual deterrence of bad behavior
- **How it can be harmful**
  - Negative behaviors can be reciprocated to extremes, as in war. A take-no-prisoners attitude will quickly be reciprocated and possibly hard to correct.
  - Exploiters will demonstrate a small favor to you (like a car salesman giving you a free cup of coffee) and get rewarded far in abundance. This gets especially bad when you are buying on behalf of someone else, like an employer or the government.
- **Examples**
  - Trade uses both self-interest incentives and reciprocation
  - Weird pauses of fighting in war, when one side shows some favor to the other
  - On the other hand, in some wars, no prisoners were taken; all were killed. Once one side does it, the other side retaliates in kind.
  - Road rage is reciprocating anger and perceived unfairness
  - Religious behavior, reciprocating favor from gods
Sacrifices in religions, as with Aztecs
General good behavior for reciprocation for getting into heaven

- Another foot-in-door technique: Watergate. A subordinate gave an extreme proposal to scandalize the other party (“some combination of whores and a gigantic yacht.”) The subordinate conceded and asked merely for a burglary, and the attorney general went along.

Antidotes
- Train yourself to defer reaction. “You can always tell the man off tomorrow, if it is such a good idea.” Dale Carnegie: [how to avoid arguments and get people on your side](https://www.allencheng.com)
- To oppose reciprocate-favor tendency, don’t let employees accept any favors from vendors.
- Strive to be more interested in pleasing than being pleased, to kick off the reciprocal virtuous cycle. A central theme of the book [Give and Take](https://www.allencheng.com)
- Guilt arises from the conflict between self-interest and reciprocate-favor tendency. Use your guilt to power being more generous with others.
- Be cognizant of exploitative favors, like with car salesmen, and try to discount those (cynically, “he’s only doing this since I’m giving him money.”) Also, go into the negotiation with a hardline price, so you don't waver when your biases take hold.

### Bias 10: Influence-from-Mere-Association Tendency

- **AKA**
  - Halo effect
  - Narrative fallacy
- **What it is**
  - The qualities of one item transfer to another simply when placed in proximity
  - “You won’t see Coke advertised alongside some account of the death of a child.”
- **Why it evolved**
  - Associating rewards (food) with neighboring items (a landmark boulder, a big tree, a certain tribe member) helps survival by making you seek it more in the future
    - If caveman Grog looks really handsome and healthy and is eating caterpillars all day, maybe caterpillars can make you handsome and healthy too
  - Likewise associating pain (illness) with neighboring items (vomit, feces) helps avoid those items
- **How it can be harmful**
  - Wrong attribution of previous success - we seek narratives that explain the world, to reduce uncertainty. This makes us connect the dots we see, while ignoring the information that we don't have.
    - Gambler thinking he’s on a hot streak when it’s just randomness
    - Investor who got lucky in a venture, thinks he can predict the future, and tries again, with failure
  - Wrong attribution of liking/loving or disliking/hating
  - Persian Messenger syndrome – killing the messengers who bring bad news (the
messengers then learn to run and hide instead of delivering the news)
- Associating your current misfortune with someone helping you can swamp reciprocating favor tendency
  - Charlie had a friend Glotz who gave below-market rents and college fellowships to tenants. When he moved to tear down the building, someone said “Glotz doesn’t need any more money. I know this because I was supported in college by Glotz fellowships.”
- Classification stereotypes
  - Old people are not high mental functioning

• Examples
  - Association of high prices with quality
  - Luxury goods where high prices are associated with extra status
  - Advertising associating attractive people with product
  - Persian Messenger syndrome
    - CBS Chariman Paley lived in a cocoon of unreality because he was hostile to bearers of bad news

• Antidotes
  - Look for accidental, non-causative factors associated with success that will mislead the appraising of new odds
  - Look for dangerous aspects of the new undertaking that weren’t present in the last success
  - Don’t kill the messenger; reward her for bringing in problems early.
    - “Always tell us the bad news promptly. It is only the god news that can wait.”
  - Combat classification stereotypes by remembering that the average does not guide the specific item
    - “the fellow who drowned in a river that averaged out only eighteen inches deep.”
  - Kahneman: Begin with a baseline statistical estimate of the likelihood of something happening or of a quantity. Then adjust from the baseline based on the information you have.

Like what you're reading? Check out my summaries of important books on cognitive biases and **how to think smarter**:

**Thinking Fast and Slow, by Daniel Kahneman**
Bias 11: Simple, Pain-Avoiding Psychological Denial

- **AKA (none)**
- **What it is**
  - Denying that an objective truth exists because it causes pain
  - Usually mixed up with love, death, and chemical dependency
  - Can probably be helpful in persevering if the objective truth is not available, or the common wisdom is incorrect
- **Why it evolved**
  - Avoiding pain probably helps people continue to survive (eg not believing your husband is dead from a food expedition helps you continue caring for your family, rather than breaking down)
  - Ego barrier: you want to be capable and to be seen as such, and denying your problems makes you feel better and seems to make others think better of you
- **How it can be harmful**
  - If the truth exists and you refuse to accept it, denial can only worsen your decision making
  - When you fail or face misfortune, you tend to blame the external world, rather than look at what you contributed to the error and how you can change in the future
  - You tend to wish reality were different, which gets you nowhere
- **Examples**
  - Denial is first stage of grief
  - Substance abusers tend to deny they have a problem as they further deteriorate
- **Antidotes**
  - “It is not necessary to hope in order to persevere.”
  - Don’t even risk chemical dependency by starting
  - Exposure therapy to the truth – keep repeating it and it will become less painful
Ray Dalio’s Principles: Embrace reality and relentlessly find the truth. If denial is a problem of yours, you must read this book.

**Bias 12: Excessive Self-Regard Tendency**

- **AKA**
  - Lake Wobegon effect
  - Endowment effect
  - Dunning-Kruger effect
  - Homophily
- **What it is**
  - You overestimate your abilities
    - 90% of drivers state they're above average drivers
    - When something comes easily to you, you tend to rate yourself based on how easy it is, rather than how easy the rest of the population finds it.
  - You overvalue your possessions
    - When given a new item, people are immediately willing to pay more for it than if they weren’t given the item.
  - You overvalue your decisions once you’ve made them (also inconsistency avoidance)
  - You like people who are like you
- **Why it evolved**
  - Confidence helps spur action and grows you beyond your abilities? Self-doubt would be crippling
  - The true character of someone is hard to read, and the effects of behavior take a while to materialize. In the meantime, people have to pick mating partners before they have full information. Potential mates who act confidently signal that they may have good traits. And the best way to behave confidently is to believe (sometimes mistakenly) you’re actually good.
- **How it can be harmful**
  - With doubt avoidance tendency, your overconfidence makes you pick rash decisions that aren’t as good as you believe. Then, inconsistency avoidance and excessive self-regard tendency make you think the decision is great and not worth changing
  - Believing you can contribute more good than harm (eg to your employer or team) and thus incorrectly hating others for contributing less than you.
  - Homophily breeds groupthink
    - Corrupt departments will select for people who fit the corruption and over time be very resistant to change
- **Examples**
  - You overestimate your children
  - Lake Wobegon effect – everyone believes they’re above average
  - People more often return wallets when the wallet holder resembles the finder
  - Gambling play is much lower when you can’t pick your own numbers
  - If you think you’re pretty smart, you may fall for scams if you think “there’s no way I
would fall for scams, thus this isn’t a scam”
- Stock market cycles, where people enter the market thinking they’re smarter than the average investor.
- You overestimate abilities to pick great hires from face-to-face interviews
- The worst criminals don’t appraise themselves as all that bad. They either believe they didn’t commit their crimes (denial) or, considering the circumstances of their lives, what they did was forgivable. People justify their actions because they don’t want to think of themselves as bad people.

**Antidotes**
- Force yourself to be more objective when thinking about yourself, the people close to you, your property, and your decisions
- When making decisions, use a checklist to see if any psychological tendencies apply and ask yourself questions about your objectivity
- Don’t accept excuses for poor performance
  - A child steals candy and says he’ll replace it later. His father says, “Son, it would be better for you to simply take all you want and call yourself a thief every time you do it.”
- Fixable but unfixed bad performance is bad character, tends to be self-repeating, and creates a bad culture. Create a fair, meritocratic, demanding culture
- Sever the poor performers
- Justified pride is fine and necessary (pilots need to be confident in landing planes)
- To work better with other people’s self-regard, don’t approach them head on and criticize them even if you disagree with them. They will entrench and justify their behavior. Instead, admit that they have every right to believe what they believe, and you merely want to explore your differences in thinking.

**Bias 13: Overoptimism Tendency**

**AKA**
- Overweighting of probabilities at the edges; Kahneman’s prospect theory
- Possibility effect

**What it is**
- People tend to believe things will work out
- “What a man wishes, that also will he believe.” - Demosthenes
- People overweight small probabilities - 1% is weighted at 5.5 instead of at 1.0
  - As Jim Carrey said in *Dumb and Dumber*, in response to a woman who gave him a 1 in million shot at being with her: “so you’re telling me there’s a chance!”
- Which do you find more valuable?
  - Going form 0% chance of winning $1 million to 5% chance
  - Going from 5% chance of winning $1 million to 10% chance

**Why it evolved**
- Hope spurs action. Optimism that there is a food source over there helps survival.
- In the loss side, being overreactive to small probabilities of bad events increased survival -
it’s safer to assume a shadow is a hungry tiger even if the probability is low.

- How it can be harmful
  - Believing that things will work out overestimates the value of decisions
  - Combined with loss aversion, people are willing to take large gambles with small probabilities of success, to avoid large losses
  - Denial of bad news and overoptimistic ignorance of risk factors leads to poor decisionmaking

- Examples
  - Venture funding believing that most of your picks can be huge companies, and that some critical risk will be resolved
  - People buying lottery tickets and overestimating chances of winning

- Antidotes
  - Habitual use of probability math. Mental heuristics for chance are not adequate, much like your intuitive golf grip is nowhere as performant as the unnatural ones now used by experts

### Bias 14: Deprival-Superreaction Tendency

- **AKA**
  - Loss aversion
  - Sunk cost fallacy
  - Near-misses

- **What it is**
  - The pleasure gain from earning $10 is less than the displeasure from losing $10
  - Almost getting a reward and then having it jerked away makes the loss feel as though he had owned it the whole time
  - Overweighing of what is near – someone worth $10 million will decry losing $100 from his wallet, but not small percentage losses in his assets

- **Why it evolved**
  - Having your food taken away

- **How it can be harmful**
  - Overreaction to a threatened loss
    - Open-outcry auctions where you feel you’ve almost won, so you keep bidding
    - Missing the forest for the trees – worried about competition taking your share, when the real prize is a new market people aren’t fighting for
    - Like a dog biting the hand that feeds it but takes away food, disliking someone who takes something away may cause overreaction in way that is harmful to you (say an employer who takes you off a project)
    - Denial may protect yourself against deprival superreaction. Eg a spouse dies; deprival superreaction would be extremely crushing, thus your body protects you through denial.
  - Synergizes strongly with inconsistency avoidance. The greater the investment in your
venture, the greater the deprival reaction will be.

- For example, running a business the way it always has been, and not facing the truth that it needs to change (which risks deprival of a way of life, many people’s livelihoods) or shutting it down period. See Andy Grove and switching Intel from memory to processors.

- **Examples**
  - Near-misses in gambling (7-7-lemon) make you feel like you almost had the prize
  - Among religious people, disliking vocal nonbelievers who threaten taking away colleagues and also deprive you of your helpful beliefs.
  - Labor objects to decreases, and this often requires that companies close rather than renegotiate salaries downwards.
  - Gambler has passion to get even once he suffers a loss, and this passion grows with the loss.
  - Charlie bought 300 shares of an oil company at $115 per with cash on hand. He was offered another 1,500 but didn’t want to liquidate any other assets to get the cash needed, so he refused. Later Shell bought the company for $3,700 per share. He felt that if it were a good value, he should have paid more at that value.
  - Holding onto stocks for too long when they've dropped in value because you don't want to close the stock at a loss. The right response is to consider your portfolio as a whole, and see the opportunity cost of holding onto the loser stocks.

- **Antidotes**
  - Calibrate the losses in true absolute terms, rather than relative terms (eg not firing a nonperformant $100k/year employee is far worse than a vendor overcharging by $100 a month
  - **Practice broad framing**: for wealth, consider money as part of one global pool, rather than individual accounts with win/loss records. This will help put things into proper perspective.
  - Extreme culture of courtesy

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**Bias 15: Social-Proof Tendency**

- **AKA**
  - Bystander effect
  - Mass delusions
  - Social conformity

- **What it is**
  - You think and do what you observe is thought and done around you.
  - Triggered most easily in times of puzzlement and stress
  - Applies to both action and inaction

- **Why it evolved**
  - Helps social cohesion through normative behavior
  - Helps everyone share in cooperative behavior that helps overall survival (eg bathing)

- **How it can be harmful**
When consensus is wrong, but following consensus is safer than violating it. "If everyone else is doing it, it can't be wrong, can it?"

When other people are ignoring the truth and behaving poorly

A company follows the crowd and thins its advantage

When coupled with stress and doubt avoidance, leads to rash follow-the-crowd decisions (see: stock market booms and busts; people owning 5 houses in 2008)

Exploitors like salespeople will couple social proof with stress and isolation

In inaction, everyone sits around and does nothing in emergencies

Coupled with envy/jealousy and deprival superreaction (from the above 25 cognitive biases) – when everyone is subject to the same biases and acts irrationally, social proof reinforces the bad behavior

- Examples
  - Go to the football game by following the crowd
  - Asch conformity experiments, e.g. Stranger enters elevator with everyone standing to face the rear – stranger will often turn to do so
  - Teens rely on social proof of peers more than from parents
  - Serpico syndrome – lone dissenter police officer is harassed by the corrupt organization
  - Kitty Genovese died after crying for help
  - Large corporate failures like Enron and Theranos were propped up by social proof - so many smart investors couldn't possibly be wrong! In reality, no one had done proper due diligence, and the initial seed of social proof caused a positive feedback loop
  - Advertising with admirable people using product; product placement
  - Black Friday mobs in frenzy over sales – coupled with incentive bias, deprival superreaction, envy/jealousy

- Antidotes
  - As a society, stop bad behavior before it spreads, and display good behavior
  - Learn how to ignore the examples from others when they are wrong
  - Use a checklist to see if the countervailing theory is correct
  - To stop bystander effect, point to someone specific and ask for something

### Bias 16: Contrast-Misreaction Tendency

- AKA
  - Contrast effect
  - Anchoring
  - Denominator neglect

- What it is
  - You tend to think in terms of relative contrast (% terms) rather than absolute numbers
    - Eg put two hands in different buckets of cold or hot water, then put them in lukewarm water. The hands will feel different despite same final temperature
  - Small imperceptible differences can make a huge difference over time – boiling frog effect

- Why it evolved
  - Detecting contrasts may allow for simpler cognition, or faster recognizing of danger (eg a
tiger contrast vs grass)

- How it can be harmful
  - You make a decision based on relative value, not absolute value
    - Buying a $1k upgrade to your car that costs $60k, when you’d otherwise balk at a $1k purchase
  - Boiling frog syndrome can lead to a drastic situation with one small slip at a time
    - Eg the slippery slope down alcoholism
  - In negotiations, anchoring and reciprocation tendency can draw you away from your original desired end point.
  - Misleading statistics: "0.1% risk of death" seems smaller than "8 out of every 1000 people die."
  - Outrageous policies can be compared to straw men that make the policy seem more reasonable

- Examples
  - Real estate agent shows you three overpriced, bad houses, and a final normal priced normal house, which now seems like a bargain
  - Obsessing over small absolute differences like credit card rewards can be problematic, since the relative amount looks big (1% to 1.5%) but in total it may amount to just hundreds of dollars a year.

- Antidotes
  - Think about absolute value of item rather than anchoring to a number that's presented to you
  - Convert values into the same denominator to accurately compare numbers
  - To avoid anchoring, invert the question and approach from the other side.

**Bias 17: Stress-Influence Tendency**

- AKA (none)
- What it is
  - Adrenaline-caused stress prompts faster and more extreme reactions
  - Light stress can slightly improve performance (eg tests)
- Why it evolved
  - You don’t want to be pondering when a tiger jumps at you
- How it can be harmful
  - Stress causes reliance on faulty heuristics rather than methodical thinking
  - Stress amplifies other biases
    - Social proof tendency (no time to think, do what everyone else does)
    - Deprivation superreaction (my stuff is being taken away, quick, attack)
    - Reciprocation, Kantian fairness, Disliking/hating tendency (e.g. road rage: someone is being unfair and taking away my time, I hate this person, I want to unleash my fury on this person, I’m stressed and I think this is a good idea)
    - Doubt-avoidance (I’m stressed, I don’t know what to do, I will pick something quickly to avoid this feeling)
  - Extreme stress can lead to non-depressive mental breakdowns and rewiring
- Examples
Pavlov experiments with stress in dogs

- Put dog in cage, flood cage until barely any air is left. Causes a behavior change where they started disliking handlers
- The dogs hardest to break down were also hardest to return to pre-breakdown state
- Interestingly, he couldn’t reverse a breakdown except by reimposing stress

Research: in stressful situations, people tend to want charismatic leaders, even though they may tend to be narcissistic and not the best leader for the situation

- Combines with influence-from-mere-association and

Antidotes

- Try to maintain calm, think about how much time you have to react and what happens if you don’t act before then. You may have more time to think than you expected
- Extreme stress may help rewire people (as in reconvert ing someone who has joined a cult, or perhaps drug habits?) [this has not been studied much]
- When calm, use checklists to think through decisions

Bias 18: Availability-Misweighing Tendency

- AKA
  - Availability heuristic

- What it is
  - Your brain works with what’s available to you
  - This applies broadly to facts, memories, concepts, and emotions
    - Thinking, Fast and Slow covers this in fantastic detail

- Why it evolved
  - We have a limited capacity to remember, recall, and think, so we jump to what’s easily available
  - Possibly, it helps to upweight the most recent places you got food and not the place that worked a year ago

- How it can be harmful
  - By using only what’s recently available, you ignore other important data. As Kahneman says, "what you see is all there is”
  - Amplifies other biases, mainly in misjudging the small amount of information that is recently available to you
    - Stress influence (you have to make a decision fast, and the easiest recall is what’s available)
    - Contrast misreaction (the most recent change is upweighted)
    - Social proof (among crowds, there is a massive cognitive input of many humans behaving together that crowds out independent thought)
    - Liking/disliking tendency (I like this person's accent, so she must be smart)

- Examples
  - Economists supporting arguments that produce reams of data, rather than fuzzier concepts that are true (thus the time it took for behavioral economics to arise)
  - “When I’m not near the girl I love, I love the girl I’m near.”
• Antidotes
  ○ Use procedures and checklists
  ○ Emphasize disconfirming evidence
  ○ Seek information that is not readily available to you – find a new type of person to talk to, or invert and read the other side’s publications. Keep asking: "what information don't I have? What would be the strongest evidence that would change my mind?"
  ○ Extra-vivid and memorable information should be underweighed
  ○ Vivid images can be constructively used to persuade and help memory (as in mnemonics or in speeches)
  ○ “An idea or a fact is not worth more merely because it is easily available to you.”

Bias 19: Use-It-or-Lose-It Tendency

• AKA (none)
• What it is
  ○ All skills attenuate with disuse.
• Why it evolved
  ○ All neural circuits have the tendency to have memory and decay over time. Probably useful for pruning of unused circuits.
• How it can be harmful
  ○ Gaps appear in your latticework of thinking, and you risk man with a hammer syndrome.
• Examples
  ○ Pianist Paderewski said if he failed to practice for a single day, he’d notice his performance deteriorate, and after a week, the audience would notice it too.
  ○ Skills trained to fluency will be lost more slowly and will come back faster with new learning.
• Antidotes
  ○ Continuously practice the skills you can’t afford to lose, much like fighter pilots in simulators.
  ○ Use a checklist to recall important skills and concepts.
  ○ Learn a skill to fluency to better recall it later.

Bias 20: Drug-Misinfluence Tendency

• AKA (none)
• What it is
  ○ There are substances like alcohol that are addictive and make you feel deceptively happy
• Why it evolved
  ○ Habituation of neurons to the input (like morphine) both require increasingly strong doses
and cause withdrawal.

- How it can be harmful
  - Drugs are destructive for cognition, and addiction is destructive to life
- Examples
  - Addictive substances: alcohol, nicotine, caffeine, opiates
- Antidotes
  - Just don’t even get started
  - Alcoholics Anonymous has a decent success rate and employs a good number of the psychological effects expressed here

### Bias 21: Senescence-Misinfluence Tendency

- AKA (none)
- What it is
  - Old people find it harder to learn new skills
  - Deterioration can be disguised by social conventions like clothing
  - However, some remain good at maintaining intensely practiced old skills (as can be seen in a bridge or checkers tournament)
- Why it evolved
  - Our health in general is optimized toward early reproduction. We're in an area where more people are surviving into old age than ever before.
  - Your brain prunes the circuits that are more successful over life. As you age, consistency bias and status quo bias fix your beliefs. Your personality and thinking become less plastic.
- How it can be harmful
  - It gets harder to change old people's habits for the better, especially in the face of new evidence
- Examples (none)
- Antidotes
  - Continuous thinking and learning, done with joy, can delay the inevitable

### Bias 22: Authority-Misinfluence Tendency

- AKA
  - Conformism
  - Agentic state theory
- What it is
  - Man was born mostly to follow leaders, with only a few people doing the leading
  - Hierarchies arise that support this tendency
  - People tend to follow instructions from authority, even blindly
- Why it evolved
May improve cohesion and improve survival by reducing the number of orders given
Replicating the habits of the powerful or successful may improve survival

- How it can be harmful
  - Authority limits the individual’s decision making, which is bad
  - When the leader is wrong
  - When the leader’s ideas are misunderstood
  - Amplified by the other 24 cognitive biases
    - stress influence (confusing situations like emergencies or economic recessions increase reception to leader’s guidance)
    - doubt avoidance (being in doubt is stressful, following a leader’s orders is easier)
    - social proof (when a few start following, the rest flock to them)
    - contrast misreaction (small gradual changes can appear more innocuous than real)
    - liking tendency (if you like something about an authority figure, you’re more likely to believe what she says and follow her orders)

- Examples
  - Milgram experiment
    - The subject is induced by an authority in a lab coat to deliver increasingly strong electric shocks to a confederate. When demurring, the authority says, in order, “Please continue. The experiment requires that you continue. It is absolutely essential that you continue. You have no other choice, you must go on.” The majority of people deliver a final electric shock that is believed to be fatal.
  - Hitler led believing Christians into supporting genocide
  - In 2014, a ferry capsized, and 300 passengers (mainly high school students) died. The captain asked the passengers to stay in their cabins and await further orders, which didn’t come.
  - Many CEOs have remained in control far longer than they should have

- Antidotes
  - Be careful whom you appoint to power as this figure will be hard to remove, since people listen to authority
  - As usual, de-stress in a situation, follow a checklist, and verify the leader’s judgment is sound
  - Check your thinking if you’re defaulting to “well this [policeman, professor, manager] couldn’t possibly be wrong.” Coming from the perspective of all people universally having biases and possibly being wrong is healthy.

**Bias 23: Twaddle Tendency**

- AKA
  - Dunning-Kruger effect
- What it is
Twaddle = “foolish speech or writing”

Some people tend to pour out twaddle while others are doing serious work

Why it evolved

- Self-regard tendency and influence-from-mere-association (from the other 25 cognitive biases) can make people try to appear more confident or knowledgeable than they are

How it can be harmful

- Believing twaddle from other people can lead to bad decisions
- Overstepping your circle of competence, with excessive self-regard tendency, may delude you into taking on something you’re not ready for

Examples

- Honeybee experiment
  - Bees dance to indicate the direction of nectar to the other bees
  - Scientists put nectar straight up above the hive, where it normally never is (because flowers don’t grow in the sky)
  - The bee does an incoherent dance that confuses the other bees

Antidotes

- Know your circle of competence. If you’re outside of it, gather more information before making a decision
- **Radical open-mindedness** - be willing to accept that you are wrong and relentlessly find ways to increase the chances you are right
- “The principal job of an academic administration is to keep the people who don’t matter from interfering with the work of the people that do.” Don’t hire twaddlers or people whose confidence exceeds their abilities.

### Bias 24: Reason-Respective Tendency

- **AKA**
  - Narrative fallacy

- **What it is**
  - You work and learn better when given correct reasons for why to do something.

- **Why it evolved**
  - People innately enjoy accurate cognition (such as puzzles and games)
  - Having a consistent logical argument is logically more persuasive

- **How it can be harmful**
  - Hearing illogical reasons can be just as persuasive as logical reasons
  - Amplifies other tendencies and 25 cognitive biases:
    - Doubt avoidance: a bad reason is better than no reason at all
    - Authority misinfluence: authority is already persuasive, so bad reasons can surpass the threshold for compliance

- **Examples**
  - Copy machine study: telling people you need to skip ahead in line because you need to make copies gives the same compliance as saying you’re in a rush

- **Antidotes**
- Think through reasons before giving orders
- Communicate reasons for doing something
  - Justify orders with Who, What, Where, When, Why
- Keep asking Why? Justify the reasons logically (and use a checklist)

Bias 25: Lollapalooza Tendency

- AKA
  - Synergy
  - Emergent effects
- What it is
  - The confluence of multiple tendencies leads to extreme consequences (see the examples below)
  - Has been underappreciated in psychology, likely because multiple biases are hard to replicate well in the lab. Experiments are well-controlled and meant to show a strong effect for one issue.
- Why it evolved
  - No particular reason given - this is a phenomenon of biases amplifying each other. Could be that the combination of biases historically led to increased survival.
- How it can be harmful
  - Extreme behaviors can result when many biases point in the wrong direction
- Examples
  - Cults
  - Milgram experiment
  - Hitler
- Antidotes
  - Tackle the tendencies individually to dismantle the structure

Analyses of Lollapaloozas

Charlie repeatedly mentions two lollapaloozas leading to extreme behaviors that have fascinated him: how cults work, and the Milgram shocking experiment. They combine many of the 25 cognitive biases here to warp the behavior of normal people.

As per his suggestion, I apply a checklist of the 25 cognitive biases to see the contributors to these behaviors, ordered roughly in chronological sequence.
Why cults are so effective

Let's step through the life of a potential cult member, starting from the beginning. We'll see how many of the 25 cognitive biases apply at each step.

- **Doubt-avoidance**: potential members may be more vulnerable if they have lost direction in life or need answers to large existential questions.
- **Stress-influence**: potential members may be in stressful situations where they hasten decision making.
- **Liking/loving, influence-from-mere-association**: recruiters may be very charismatic, attractive, likable. Members generally may seem to be good people.
- **Reciprocation**: recruiters may give a small token and expect a donation or listening to their spiel (Hare Krishna giving flowers).
- **Reason respective tendency**: many justifiable reasons to join the cult are compelling.
- **Social proof**: witnessing many members makes one think, “they can’t all be crazy.” Seeing all the members perpetuate practices lowers barrier to practicing yourself.
- **Excessive self-regard**: once under the spell, self-regard makes one think, “I’m a pretty smart person, and I’m unlikely to be fooled, so more likely this group really is correct.”
- **Inconsistency avoidance**: on initiation, cults often ask for a severance of ties, selling of homes, donation of assets. This sunk cost makes leaving the cult far harder practically and socially (it’d be embarrassing to return to your parents after telling them off). During cult membership, the
- **Reward superresponse**: happiness can be a big driver to join. There are likely continuous benefits to being a cult member that keep driving the dopamine circuits.
- **Denial**: even if membership in the cult is destructive, denying the harms exist protects the ego. It is hard to accept that one has made such a terrible decision to give up their former life and join the cult.
- **Contrast misreaction**: each progressive step may be gradual to ease the transition. Scientology has many levels of ascension.
- **Deprival superreaction**: leaving the cult becomes very difficult once it becomes your identity and your social connection.
  - **Deprival reaction also raises the bar for entering the cult if it requires initiation rites, but likely the doubt avoidance and social proof far overwhelm this**
- **Disliking/hating**: over time, the feeling of us vs others may spur hate for the outside world.
- **Authority misinfluence**: cults often surround a charismatic leader who give guidance to followers. Hierarchies are set up for leadership structures.
- **Envy/jealousy**: once the cult’s beliefs have taken hold, one may envy the position of higher people who are closer to the great leader. This spurs further action to rise to that level.
- **Availability misweighing**: many cults seclude themselves from the outside world. This reduces the toolkits available to members to make better decisions.
- **Use it or lose it**: cults have regular rituals that pound the beliefs into your head.
- **Drug misinfluence**: some cults may actually use drugs to promote addiction.

Nearly every tendency in Charlie’s list is applied to cults. It makes sense to have so many apply, as the cult is a microcosm of society and becomes a person’s entire existence.
No surprise then that they can lead to such dramatic behavior changes. Similar to this is getting involved in multi-level marketing schemes and religion.

Explaining the Milgram Experiment

Similarly, Charlie Munger was dismayed at how psychologists explained the Milgram experiment as a simple authority influence issue, when in fact many other of the 25 cognitive biases apply.

Here's my take on the major factors that caused normal people to deliver lethal shocks:

- Authority influence: a respectable person in a lab coat tells you to do things
- Reason respect: “the experiment requires that you continue” justifies the shocking as part of research
- Social proof: bystanders aren’t interrupting, so it’s probably OK
- Contrast misreaction: each gradual step up of 15V is far easier to handle than a first shock at 450V
- Stress influence: the confusion at hurting someone and your internal conflicts cause stress and lower inhibition to executing orders
- Inconsistency avoidance: taking the first few steps builds inertia from stopping. Internally, the participants see themselves as people who contribute to meaningful scientific experiments, and if they were to leave, it would jeopardize the research
- Excessive self-regard: “I’m not the type of person to just blindly obey authority, so my behavior is probably justified, and this is probably OK to do.”
- Disliking/hating tendency: the person has done something wrong, and I’m punishing him, so he’s probably unlikeable to begin with

Practical examples of applying tendencies

- Adopting the US Constitution
  - Secret meetings not released to public – Lowers inconsistency avoidance
  - No recorded vote by name until final vote – Lowers social proof, inconsistency avoidance, authority influence
  - Votes reversible at any time – Lowers inconsistency avoidance
- Using decision trees and checklists
  - Avoid rash decisions and biases

Paradoxes of psychology

- The more people learn about biases, the less true they are
- Yet even knowing about the bias does not fully guard you against it