Cognitive Biases in UX Research

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Cognitive Biases

Information processing shortcuts
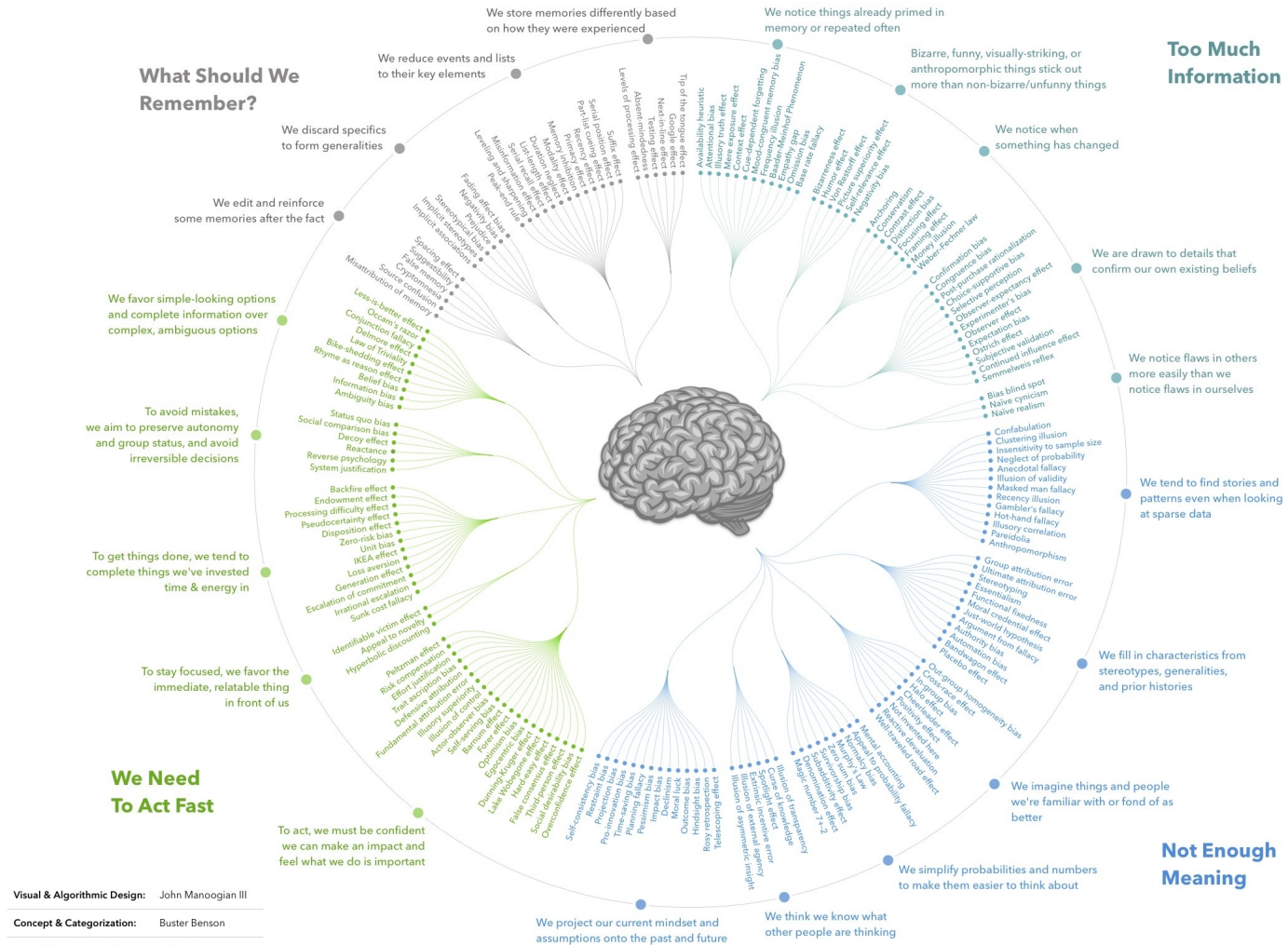
Pervasive – we all have them

Influence our thoughts, decision-making, and behavior

Why Diversity and Inclusion Matter

COGNITIVE BIAS CODEX

What Should We Remember?

Too Much Information

We Need To Act Fast

Not Enough Meaning

We store memories differently based on how they were experienced

We reduce events and lists to their key elements

We discard specifics to form generalities

We edit and reinforce some memories after the fact

We favor simple-looking options and complete information over complex, ambiguous options

To avoid mistakes, we aim to preserve autonomy and group status, and avoid irreversible decisions

To get things done, we tend to complete things we've invested time & energy in

To stay focused, we favor the immediate, relatable thing in front of us

To act, we must be confident we can make an impact and feel what we do is important

We project our current mindset and assumptions onto the past and future

We think we know what other people are thinking

We simplify probabilities and numbers to make them easier to think about

We imagine things and people we're familiar with or fond of as better

We fill in characteristics from stereotypes, generalities, and prior histories

We tend to find stories and patterns even when looking at sparse data

We notice flaws in others more easily than we notice flaws in ourselves

We are drawn to details that confirm our own existing beliefs

We notice when something has changed

We notice things already primed in memory or repeated often

Bizarre, funny, visually-striking, or anthropomorphic things stick out more than non-bizarre/unfunny things

Too Much Information (labels)
Availability heuristic
Attentional bias
Illusory truth effect
Mere exposure effect
Context effect
Cue-dependent forgetting
Mood-congruent memory bias
Frequency illusion
Baader-Meinhof Phenomenon
Empathy gap
Omission bias
Base rate fallacy
Bizarreness effect
Humor effect
Von Restorff effect
Picture superiority effect
Self-relevance effect
Negativity bias
Anchoring
Conservatism
Contrast effect
Distinction bias
Focusing effect
Framing effect
Money illusion
Weber-Fechner law
Confirmation bias
Congruence bias
Post-purchase rationalization
Choice-supportive bias
Selective perception
Observer-expectancy effect
Experimenter's bias
Observer effect
Expectation bias
Ostrich effect
Subjective validation
Continued influence effect
Semmelweis reflex

Not Enough Meaning (labels)
Bias blind spot
Naïve cynicism
Naïve realism
Confabulation
Clustering illusion
Insensitivity to sample size
Neglect of probability
Anecdotal fallacy
Illusion of validity
Masked man fallacy
Recency illusion
Gambler's fallacy
Hot-hand fallacy
Illusory correlation
Pareidolia
Anthropomorphism
Group attribution error
Ultimate attribution error
Stereotyping
Essentialism
Functional fixedness
Moral credential effect
Just-world hypothesis
Argument from fallacy
Authority bias
Automation bias
Bandwagon effect
Placebo effect
Out-group homogeneity bias
Cross-race effect
In-group bias
Halo effect
Cheerleader effect
Positivity effect
Not invented here
Reactive devaluation
Well-traveled road effect
Mental accounting
Normalcy bias
Appeal to probability fallacy
Murphy's Law
Subadditivity effect
Survivorship bias
Zero sum bias
Denomination effect
Magic number 7±2
Illusion of transparency
Curse of knowledge
Spotlight effect
Extrinsic incentives error
Illusion of external agency
Illusion of asymmetric insight
Telescoping effect
Rosy retrospection
Hindsight bias
Outcome bias
Moral luck
Declinism
Impact bias
Pessimism bias
Planning fallacy
Time-saving bias
Pro-innovation bias
Projection bias
Restraint bias
Self-consistency bias

We Need To Act Fast (labels)
Overconfidence effect
Social desirability bias
Third-person effect
False consensus effect
Hard-easy effect
Lake Wobegon effect
Dunning-Kruger effect
Egocentric bias
Optimism bias
Forer effect
Barnum effect
Self-serving bias
Actor-observer bias
Illusion of control
Illusory superiority
Fundamental attribution error
Defensive attribution
Trait ascription bias
Effort justification
Risk compensation
Peltzman effect
Hyperbolic discounting
Appeal to novelty
Identifiable victim effect
Sunk cost fallacy
Irrational escalation
Escalation of commitment
Generation effect
Loss aversion
IKEA effect
Unit bias
Zero-risk bias
Disposition effect
Pseudocertainty effect
Processing difficulty effect
Endowment effect
Backfire effect
System justification
Reverse psychology
Reactance
Decoy effect
Social comparison bias
Status quo bias

What Should We Remember? (labels)
Ambiguity bias
Information bias
Belief bias
Rhyme as reason effect
Bike-shedding effect
Law of Triviality
Delmore effect
Conjunction fallacy
Occam's razor
Less-is-better effect
Misattribution of memory
Source confusion
Cryptomnesia
False memory
Suggestibility
Spacing effect
Implicit associations
Implicit stereotypes
Stereotypical bias
Prejudice
Negativity bias
Fading affect bias
Peak-end rule
Leveling and sharpening
Misinformation effect
Serial recall effect
Duration neglect
List-length effect
Modality effect
Memory inhibition
Primacy effect
Recency effect
Part-list cueing effect
Serial position effect
Suffix effect
Google effect
Next-in-line effect
Testing effect
Absent-mindedness
Levels of processing effect
Tip of the tongue effect

Visual & Algorithmic Design: John Manoogian III
Concept & Categorization: Buster Benson
List of 188 Cognitive Biases: Wikipedia

designhacks.co

Biases

- Implicit bias
  - Based on group-based stereotypes
  - Formed from direct and indirect experience

- UX Example
  - Our implicit bias about a person may influence how we interact with them

Biases

- Framing Effect
  - How are you presenting information?
  - Are you leading participants to give you a particular response?

- UX Example
  - "What did you like about this product?" vs. "What do you think about this product?"

FRAMING EFFECT

FROZEN YOGURT — 20% FAT

FROZEN YOGURT — 80% FAT-FREE

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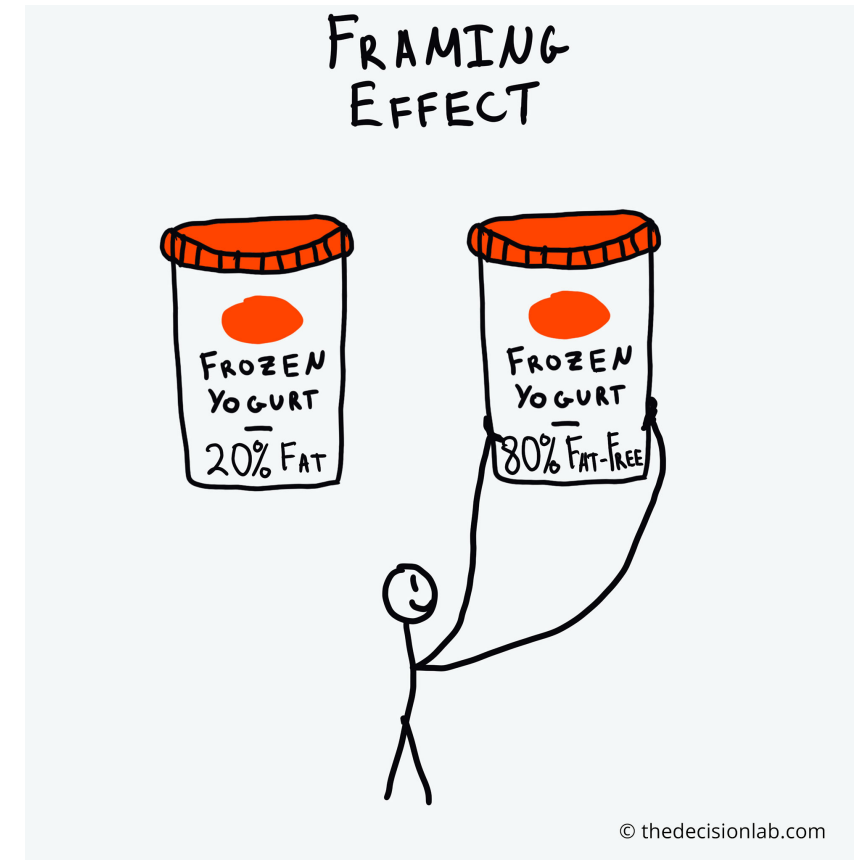
Biases

- Confirmation bias
  - Giving more weight to evidence that supports our assumptions and discounting information that doesn't support those assumptions
  - We notice, focus on, and give greater credence to evidence that fits our existing beliefs

- UX Example
  - UX practitioner might hear users complain about a poorly designed navigation system in a product and discounts such feedback because the design looks logical to them

Biases

- Clustering bias
  - Seeing patterns where there aren't any, leading to an incorrect assumption
  - Usually occurs when the sample size is too small

- UX Example
  - Drawing a conclusion based on a small number of participants who expressed the same thing

Biases

- Illusion of transparency
  - Overestimating the extent to which others know what we are thinking or trying to convey

- UX Example
  - In interviews, participants may convey their emotions, but it is hard to know if the message is being conveyed correctly

how much you *think* people know about how you feel

how much people *actually* know

effectiviology.com
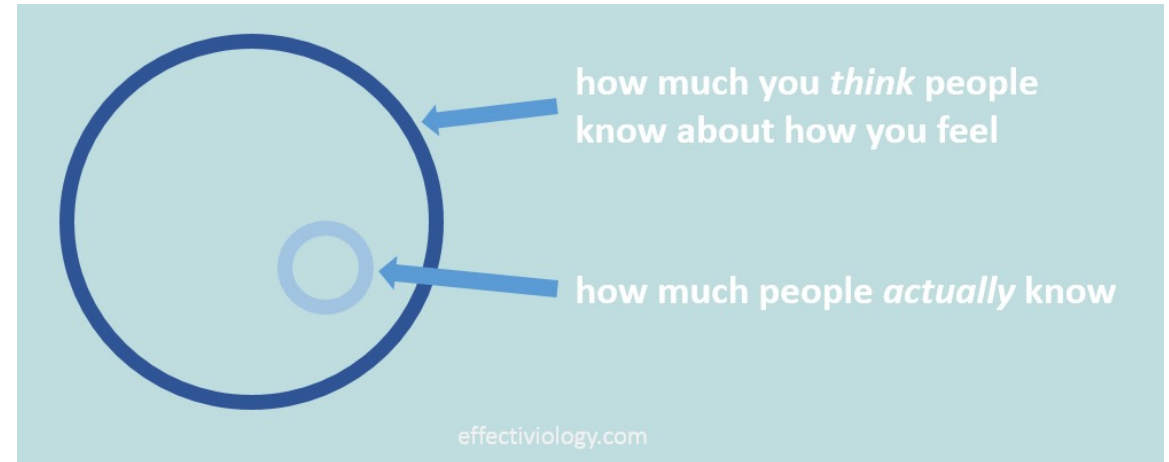
Biases

Implicit bias

Framing effect

Confirmation bias

Clustering bias

Illusion of transparency