



**Cognitive Biases and
Workplace Decision-Making**

presented to



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by
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In Problem-Solving Organizations

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 - Other slides
 - Articles on my Web site or elsewhere on the Web
- To get a copy with working links:
<http://goo.gl/a69nm9>
- To get a copy of the handout:
<http://goo.gl/Nv4JhG>
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<http://goo.gl/TR9h6f>

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Core message

- We believe:
 - We make our decisions rationally and objectively
 - ...except when we're stressed or hurried
- The truth: we are neither rational nor objective
 - Our decisions are affected by *cognitive biases*
 - Most of us, most of the time, are unaware
- We can do better

We can manage the effects of cognitive biases.
But they're an inherent part of being human.

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What are cognitive biases?

- Cognitive biases are systematic patterns of thought that:
 - Cause deviations from what rational or objective thinking would produce
 - Are outside our awareness
- Some definitions imply that they pertain only to social interactions
- They can apply to any realm of endeavor
- They are not personal failings

Note: CB(s) means Cognitive Bias(es)

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An example: the planning fallacy

- The tendency to:
 - Underestimate the time, costs, and risks of future actions
 - Overestimate benefits
- First identified by Kahneman and Tversky in 1979
 - Widely observed before that
 - Previously considered to be a form of incompetence
 - Now we know better



Kahneman and Tversky
Nobel Prize for Economics 2002 5

The bias in cognitive bias research

- Most research focuses on social behavior
 - Individuals
 - Groups
- Comparatively less research on business decisions
- Recent shift in focus is promising, but much work remains

Caveat: Many of the workplace mechanisms described in this talk are speculative

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**Some cognitive biases
that affect decision-making**

- [Focusing illusion](#)
- [Optimism bias](#)
- [Self-serving bias](#)
- [Halo effect](#)
- [Hindsight bias](#)
- [Asymmetric insight illusion](#)
- [Hot hands fallacy](#)
- [Illusory Superiority](#)
- [Illusion of control](#)
- [Confirmation bias](#)
- [Ambiguity effect](#)
- [Bias blind spot](#)
- [Anchoring effect](#)
- [Planning fallacy](#)
- [Pygmalion effect](#)
- [Social comparison bias](#)

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Decision classes

- How should we allocate that resource?
- What is a good strategy for that objective?
- How likely is that risk?
- Is this risk management plan adequate?
- How credible is that person?
- How capable is that person?
- Can we consolidate those two projects?
- Who's the best person to lead this effort?
- What are that person's true motivations?
- What's the root cause of that issue?
- How did that happen?

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Decision classes (2)

- How good was that person's performance?
- What are that person's most outstanding talents?
- Which of those approaches will work best?
- Will that process actually control what we want it to?
- Has the retrospective uncovered all issues?
- Will these two programmers work well as a pair?
- How accurate is that estimate?

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The focusing illusion



- Attaching too much significance to a single feature
- Example: If I were rich, I'd be happy
- Workplace examples:
 - If we hire this superstar, all will be well
 - If we get Snidely off the team, we'll finish on time
 - If we re-engineer our process, we can cut costs 40%
- Leads to:
 - Failure to grasp full complexity of a situation
 - Silver-bullet thinking

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Optimism bias



- Tendency to believe:
 - Probability of success is higher than data supports
 - Risk of negative event is relatively low
- Example: I smoke, but I won't get lung cancer
- Workplace examples:
 - We're more biased in favor of proposals that promise greater things
 - We're more susceptible to bias when we feel we're in control
- Leads to inadequate risk management

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Self-serving bias



- Tendency to believe:
 - Success is due to our own talents
 - Failure is due to situational factors
- Example:
 - People blame the computer when things don't work
 - They take credit themselves when things do work
- Workplace examples:
 - Retrospectives: attribute problems to external factors
 - Risk plans: Acknowledge external risks, but not our own shortcomings
 - Security: stronger defenses against external attacks
- Leads to:
 - Defective, inconsistent control processes
 - Inability to learn from errors
 - Low productivity of pair programmers who lack a close personal relationship

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The halo effect



- Tendency for one attribute of a person to bias overall assessments of that person
- Example: people judge attractive people as more sociable, more capable, ...
- Workplace examples:
 - Performance reviews biased by a single attribute or incident
 - In virtual meetings, people at the chair's location have more credibility
- Leads to distorted assessments of value of contributions, proposals, concepts, ...

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Hindsight bias



- Tendency:
 - To see causal connections between outcomes and antecedent conditions
 - To ignore conditions that introduce uncertainty
- Example: "I knew it all along"
- Workplace examples:
 - Performance review: your impulsiveness makes for conflict
 - Retrospective: project was late because of conflict
- Leads to:
 - Failure to recognize actual causes
 - Memory distortion

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The asymmetric insight illusion



George W. Bush and Vladimir Putin at G8 Summit, 2006

- Tendency to believe that my knowledge of you exceeds your knowledge of yourself
- Example: "I've got your number, pal!"
- Workplace examples:
 - We understand our competition better than they do us
 - I know why my political rival does what she does
- Leads to:
 - Underestimating rivals and competitors
 - Being surprised unpleasantly

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The hot hands fallacy

- Belief that recent events are best predictors of success
- Example: "hot" and "cold" streaks in games
- Workplace examples:
 - A recent success makes a project manager a better bet
 - Fire a CEO because company had a few bad quarters
- Leads to:
 - Decisions not based on reality
 - Scope creep



Fernandez & Cortazzo

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Illusory superiority

- Tendency to believe that one is "better than average"
- Example: all the kids in Lake Wobegon
- Workplace examples:
 - We needn't manage that risk because we're so good that it won't happen
 - If you work here, you must be one of the best
- Leads to:
 - Excessive risk appetite
 - Overvaluing in-house expertise



Garrison Keillor

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The illusion of control

- Tendency to overestimate one's ability to control events
- Example: I'll win the lottery if I pick the number carefully
- Workplace examples:
 - When the project succeeds, the project manager believes it's a personal success
 - When the project fails, we investigate only what the project manager did wrong
- Leads to:
 - Erroneous identification of root causes
 - Overvaluation of individual capabilities



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Confirmation bias

- Tendency to favor and seek only information that confirms our preconceptions
- Example: homogeneity of news channel audiences
- Workplace examples:
 - Biased search for information about a competitor
 - Biased evaluation of a competitor
- Leads to:
 - Failure to acquire accurate picture of reality
 - Deprecating dissenting views



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Ambiguity effect

- Tendency to:
 - Prefer options with known probability of good outcome
 - Avoid options with a less-well-known probability of good outcome
- Example: investing in government bonds
- Workplace examples:
 - Assign tasks to a long-time mediocre performer in preference to a promising rookie
 - Use a tried-and-true expensive solution instead of a newer, cheaper solution
- Leads to scope creep, wasted resources



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Bias blind spot

- A tendency to believe that we're immune to cognitive biases
- Related to Illusory Superiority
- Example: We believe that we don't have a bias blind spot
- Workplace examples:
 - We believe that we make decisions objectively
 - Risk plans generally don't address CB risk
- Leads to
 - Failure to compensate for cognitive biases
 - Excessive aversion to reviews and red teams
 - Accepting output of retrospectives as complete



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Anchoring effect



- Tendency to give too much weight to early-arriving information
- Examples:
 - Initial price offered sets the range
 - MSRP
- Workplace examples:
 - Project budget/schedule set by early estimates
 - In job search, salary set by previous salaries
 - Management solicits proposals for "X"
- Leads to:
 - Less-than-optimal solutions because exploration is biased
 - Unreliable estimates

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The planning fallacy



Ferdinand de Lesseps

- Tendency to:
 - Underestimate one's own budget, schedule, risks
 - Overestimate benefits
- Examples:
 - Panama Canal 1.0
 - Iraq war 2.0
- Workplace examples: Any project whatsoever
- Leads to:
 - Budget, schedule overruns
 - Unmitigated or poorly mitigated risks
 - Disappointing results
 - The need to "embellish" and "spin" in status reports

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The Pygmalion effect



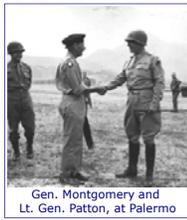
Pygmalion et Galatée
Étienne Falconnet (1763)

- Tendency for behavior or performance to align with expectations
- Example: students whom teachers regard as bright perform better
- Workplace examples:
 - Employee performance correlates with ratings
 - Also applies to processes
- Leads to misevaluation of true capability

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Social comparison bias

- Tendency to dislike or feel competitive with someone we see as "better"
- Examples:
 - Usually relates to wealth and/or status
 - Associated with depression, suicide
- Workplace examples:
 - Competition for promotions or assignments
 - Competition for workspaces, equipment, privileges
- Leads to distorted resource allocations
 - Rivalries and empire building
 - Decisions not based on organizational priorities



What we need...

There are approximately 200 CBs identified so far. Many are related to others.

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Recent publications

- "Leading in the Time of Data Breaches"
 - Cutter IT Journal, August, 2014
 - Deals with decision-making in cyber security
 - Download a free copy at: <http://goo.gl/H9QfrK>
- "Creating High-Performance Virtual Teams"
 - Cutter IT Journal, May 2013
 - Fourteen recommendations for enhancing performance of virtual teams
 - Download a free copy at: <http://goo.gl/B4PCn>

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Resources

- Politics, meetings, communication, and conflict
 - Articles at <http://ChacoCanyon.com/pointlookout/politics.shtml>
 - Tips ebook *303 Secrets of Workplace Politics*:
Acrobat: <http://goo.gl/ZhG5g>
iTunes iBook: <http://goo.gl/eWK75>
- Articles at <http://ChacoCanyon.com/pointlookout/communication.shtml>
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