OSC|12
Ohio Safety Congress & Expo

WELL AT HOME. SAFE AT WORK.

243 Slug Bug, Your Kitchen Junk Drawer and Other Risky Decisions

Roger Hall, Ph.D.

Thursday, March 29, 11 a.m. to Noon

Ohio | Bureau of Workers' Compensation

SLUG BUG, YOUR KITCHEN JUNK DRAWER AND OTHER RISKY DECISION ERRORS

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WHAT DO YOU WANT?

Results

WHAT DO YOU WANT?

Results

WHAT DO YOU WANT?

Results

Actions/Behaviors

WHAT DO YOU WANT?

Results

Actions/Behaviors

What do you want?

Results

Actions/Behaviors

Thoughts/Beliefs

What do you say when someone messes up?

- "He should have THOUGHT that one through."
- Or "He made a bad DECISION."
- Anything that impairs your ability to **think** and **decide** increases your safety risk.

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Decision making is not logical – it is emotional

- Presupposition: We are an inherently self deceptive species
- Janis & Mann versus Jonah Lehrer

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Good decision making is not rational

- Old Thinking
  - Logical, non emotional decisions are better
  - We follow a deductive path
- New Thinking
  - Those without emotions make worse decisions
  - We decide and then come up with explanations for our decision (rationalizing)

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Good decision making is not rational

- Old Thinking
  - More information is better
  - Thinking about your thinking is better
- New Thinking
  - More information is decreases decision quality
  - Thinking about your thinking decreases decision quality

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Decision and judgment errors resulting from information overload

- 4 Phases of the Judgment Process

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Decision and Judgment Errors Resulting from Information Overload

- 4 Phases of the Judgment Process
  - Encoding and Attention – What gets paid attention to and how the information is taken in.

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Decision and Judgment Errors Resulting from Information Overload

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  - Memory and Storage – how the information is retained in the person's brain.

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Decision and Judgment Errors Resulting from Information Overload

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  - Encoding and Attention – What gets paid attention to and how the information is taken in.
  - Memory and Storage – how the information is retained in the person's brain.
  - Decision – how the person executes the decision based on the information encoded and stored.

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Decision and Judgment Errors Resulting from Information Overload

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  - Encoding and Attention – What gets paid attention to and how the information is taken in.
  - Memory and Storage – how the information is retained in the person's brain.
  - Decision – how the person executes the decision based on the information encoded and stored.
  - Attribution – after the fact, the reason given for the decision or behavior. The explanation as to why something happened.

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Encoding and Attention Errors

- Priming
  - The context of the event shapes how you see the event. This is typically unconscious. You don't know how you are encoding the information, you just do.
  - "Recently and frequently accessed items come to mind more quickly than ideas that have not been activated." (Fiske & Taylor, 1984, p 231).

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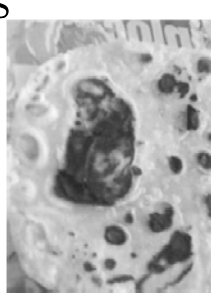
Encoding and Attention Errors

- Apohenia – seeing meaningful patterns in random data.
  - The Virgin Mary in a pancake, Jesus on a piece of toast, Winnie the Pooh in the clouds, back masking, synchronicity.
  - Humans see patterns when none exist.



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Memory Biases

- Zeigarnik Effect
  - Incomplete tasks are remembered. Once the task is complete, the memory for the information disappears.

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Memory Biases

- Von Restorff Effect
  - Events or data that "stick out" are remembered better than more frequent data.

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Memory Biases

- Humor Effect
  - Humorous items are recalled more easily than non-humorous ones.

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Memory Biases

- Fallibility
  - Items in a person's memory will be forgotten. The memories need not be traumatic, but memory is not iron clad.

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Memory Biases

- Malleability
  - Items in a person's memory can be changed by suggestion or by questioning

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Memory Biases

- Malleability
  - Giving data in a question can change how a person recalls an event. In fact, in the face of video evidence, a person whose memory has been thus shaped will believe that the video evidence is incorrect.

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Memory Biases

- Leveling and Sharpening
  - As a memory is recalled over and over, some details are leveled or fogged out. Other memories become sharper and, in recall, become more important to the event. In reality, they were less important at the time, but the way memory works, they seem more important over time. Likewise, other important facts and details become apparently less important (Koriat, Goldsmith, Pansky, 2000).

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Memory Biases

- Picture Superiority Effect
  - Concepts are recalled better if they are associated with pictures. (Nelson, 1976)
  - i.e., "The Hindenburg crash was dramatic. Some eyewitnesses said it was the worst disaster they had ever seen."

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Memory Biases

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Memory Biases

- Next in Line Effect
  - If speaking in turns, a person has greater difficulty recalling the content of what the person before and after him said.

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Memory Biases

- Choice Supportive Bias
  - We tend to recall better the good results of choices we made than the good results of choices we did not make.
  - The result is that we tend to recall our successes and not our missed opportunities. As a result, we overestimate our decision quality.

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The Decision Phase – Judgmental Heuristics – Mental Shortcuts

- Judgmental Heuristics = Mental Shortcuts
  - "Cognitive Misers"
    - Daniel Kahneman and Amos Tversky

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THE DECISION PHASE – JUDGMENTAL HEURISTICS – MENTAL SHORTCUTS

– The Representative Heuristic

– We use an example and infer that it is representative of another object

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THE DECISION PHASE – JUDGMENTAL HEURISTICS – MENTAL SHORTCUTS

- The Availability Heuristic.
  - Easy to retrieve events are seen as representative of the whole.
  - Sometimes, we mis-identify patterns because we are "looking for them."

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THE DECISION PHASE – JUDGMENTAL HEURISTICS – MENTAL SHORTCUTS

– The Attitude Heuristic

- Pratkanis and Greenwald
  - Your attitude affects your decision-making and problem solving
    - » Your attitude puts something in a favorable class or unfavorable class, so you make decisions based on that.
  - The more extreme your position, the more sure you are of the factuality of something (you actually know nothing about)

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THE DECISION PHASE – JUDGMENTAL HEURISTICS – MENTAL SHORTCUTS

– The Attitude Heuristic

- Examples of the Attitude Heuristic:
  - » Halo effect
  - » Horns effect
  - » Physical Attractiveness Bias

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THE DECISION PHASE – JUDGMENTAL HEURISTICS – MENTAL SHORTCUTS

- Overconfidence Bias
  - We tend to overestimate our abilities and ignore the base rate.

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THE DECISION PHASE – JUDGMENTAL HEURISTICS – MENTAL SHORTCUTS

- Disregard for the Regression to the Mean
  - Ignoring the average and assuming that extremely good or extremely bad performance will continue.
  - If a person performed a task well one time, we will assume that the good performance will continue. We fail to realize that they will likely go back to their baseline performance.

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THE DECISION PHASE – JUDGMENTAL HEURISTICS – MENTAL SHORTCUTS

- Over-reactance Bias
  - When faced with bad or good news, we tend to over-react.

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THE ATTRIBUTION PHASE

- Actor-Observer Bias
  - The general idea is that the reasons you attribute for behavior is different if you are the actor (doing the thing) or observing the thing (the observer).
  - Attribution about others behavior tends to be characterological rather than situation specific
  - Attributions about self tend to be situation specific and not related to stable traits.

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THE ATTRIBUTION PHASE

- Actor-Observer Bias
  - Global-Negative Attributions moderate the Actor-Observer Effect
    - In depressed people, there is a more powerful effect going on that negates and actually reverses the effect of the actor-observer effect.
    - The attributions tend to be global and negative about self. (Freeman & DeWolf, 1992, p. 37)

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THE ATTRIBUTION PHASE

- The Dunning-Kruger Effect
  - The effect that people over-estimate their ability to do something. "I could do that. How hard could it be?"
  - The same lack of self-insight makes people skilled in a task under-estimate the difficulty of the task for others to complete. "It's so easy, why can't you do it?"

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THE ATTRIBUTION PHASE

- Illusory Superiority Effect
  - Overestimating your own abilities and underestimating your weaknesses. Also called "The Lake Wobegon" effect – where all the women are strong, the men are good looking and the children are above average.

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THE ATTRIBUTION PHASE

- Just World Phenomenon
  - The world is fundamentally fair, so people get what they deserve.

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Decisional Overload

- When the number of choices increases, the quality of the decision decreases.
- When the decider is asked to reflect of the rationale for a decision, the quality of the decision decreases.

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Conclusion

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