



How to Make Better Decisions...

Welcome – the presentation will commence at 2.05

Andrew Marty

MANAGING DIRECTOR

SACS CONSULTING



ORGANISATIONAL PSYCHOLOGY MEASUREMENT AND CONSULTING

What is SACS?

- Organisational psychology business
 - Psychological testing, Wellbeing surveys, 360° feedback
 - Organisational and individual development – coaching, career transition management, workforce planning, change management
 - Recruitment process design and delivery
- Scientist practitioner model – Mainly Deakin Uni
<https://www.researchgate.net/profile/Andrew-Marty>
- Evidence based approach to people management.

Objectives*

1. Decisions? What decisions? And what's a good one?
2. Are we all equally capable of making good decisions?
3. The Neurology of decision making
4. Broadmindedness and positive emotions
5. Decision derailers – biases and other cognitive challenges
6. Decision derailers – priming
7. Reducing susceptibility to biases and priming
8. Algorithm based decision making
9. Other methods of minimising bad decisions...

Your Objectives*

Objectives

1. **Decisions? What decisions? And what's a good one?**
2. Are we all equally capable of making good decisions?
3. The Neurology of decision making
4. Broadmindedness and positive emotions
5. Decision derailers – biases and other cognitive challenges
6. Decision derailers – priming
7. Reducing susceptibility to biases and priming
8. Algorithm based decision making
9. Other methods of minimising bad decisions...

What decisions?

- Should we hire this person?
- Should we promote this person?
- This person has done bad things. Should we fire them or coach and develop them?
- Should we develop a competency framework? Will it pay off?
- Which HRIS should we buy? How long will it take to implement and what will it cost?
- Should we embark on a workforce plan – will it be worth it?
- People management is the domain of predictions.

A good prediction is:

Reliable

Valid

Are we good are we at making predictions?

- Kahneman's examples from "Thinking, Fast and Slow":
 - Stock trader study – no evidence that their predictions were better than chance
 - Paul Meehl – clinical versus statistical prediction
 - Orley Ashenfelter – Wine! People spend billions laying down the best wines in the hope that they will be good in a few year's time. People tasting and spitting into buckets.
 - Radiologists contradicted themselves 20% of the time when viewing the same chest x-ray on separate occasions.

Accuracy of predictions continued...

- I don't feel well. What's wrong with me?
- Will we have a recession?
- Will I be happy if I:
 - Get married
 - Have children
 - Move to the seaside
 - Buy a new house?

Objectives

1. Decisions? What decisions? And what's a good one?
2. **Are we all equally capable of making good decisions?**
3. The Neurology of decision making
4. Broadmindedness and positive emotions
5. Decision derailers – biases and other cognitive challenges
6. Decision derailers – priming
7. Reducing susceptibility to biases and priming
8. Algorithm based decision making
9. Other methods of minimising bad decisions...

Nature and Nurture

OUTCOMES

- Quality and Quantity of work
- Quality and Quantity of work relationships

NATURE

Intelligence

- Verbal
- Numerical
- Abstract

Integrity

Personality e.g.

- Honesty-Humility
- Emotionality
- Extraversion
- Agreeableness
- Conscientiousness
- Openness

NURTURE

Skills

- Abilities

Experience

- Knowledge
- Qualifications

Attributes

- Style
- Attitudes
- Values

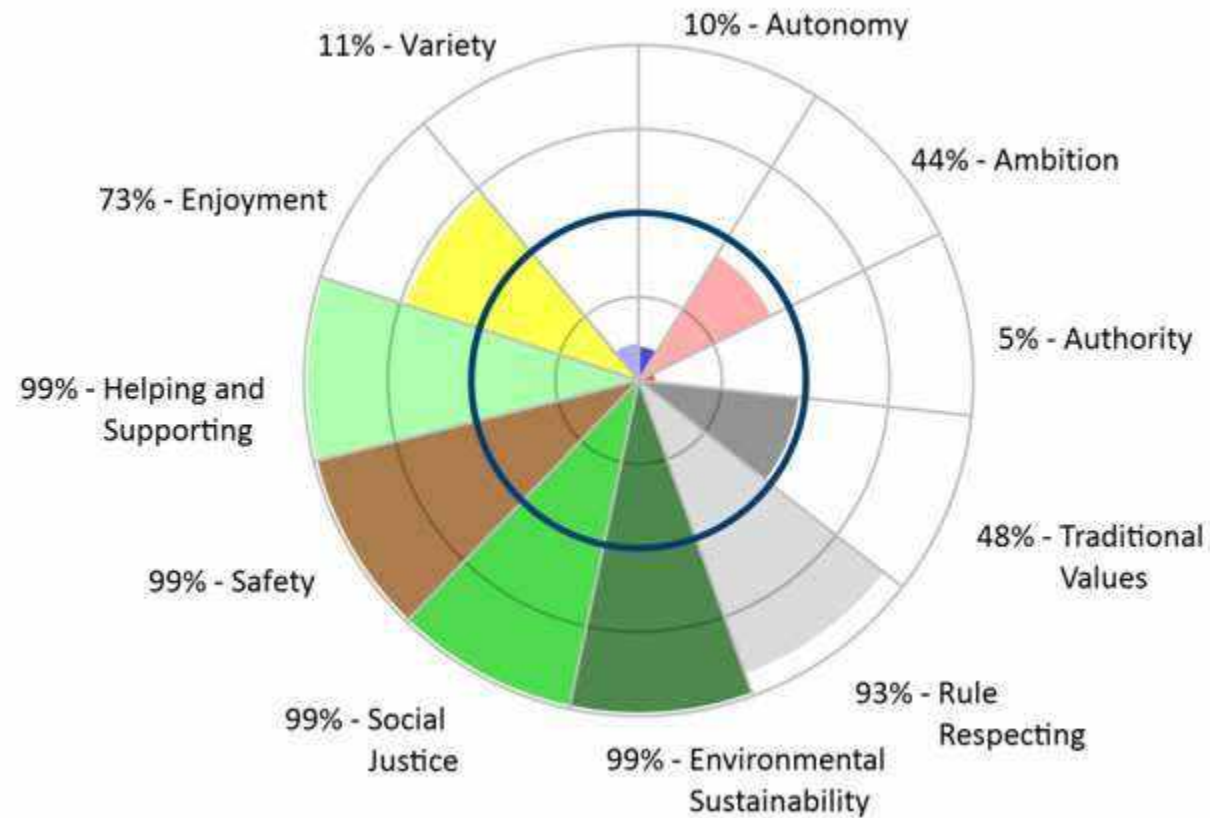
What does intelligence give us?

- Speed
- Power
- Trainability
- Less counterproductive work behaviours (Ones, et al., 2007)
- And therefore better decisions.

Decision making and personality...

1. Integrity-Modesty	3. Extraversion	5. Conscientiousness
Genuineness	Social Confidence	Likes to be Organised
Rule Favouring	Happy to be Center of Attention	Committed to Hard Work
Absence of Greed	Likes to be in Company	Detail Minded
Absence of Arrogance	Cheerfulness and Optimism	Makes Decisions Carefully
2. Emotionality	4. Absence of Anger	6. Openness to Experience
Threat Sensitivity	Unlikely to Carry a Grudge	Cares About Appearances of their Work
Anxiety	Unlikely to be Harsh	Curious About the World
Lack of Independence	Doesn't Have to Have Things Their Own Way	Likes to be Creative
Overly Empathic	Slow to Anger	Comfortable with the Unfamiliar
		7. (Interstitial scale)
		Soft Heartedness

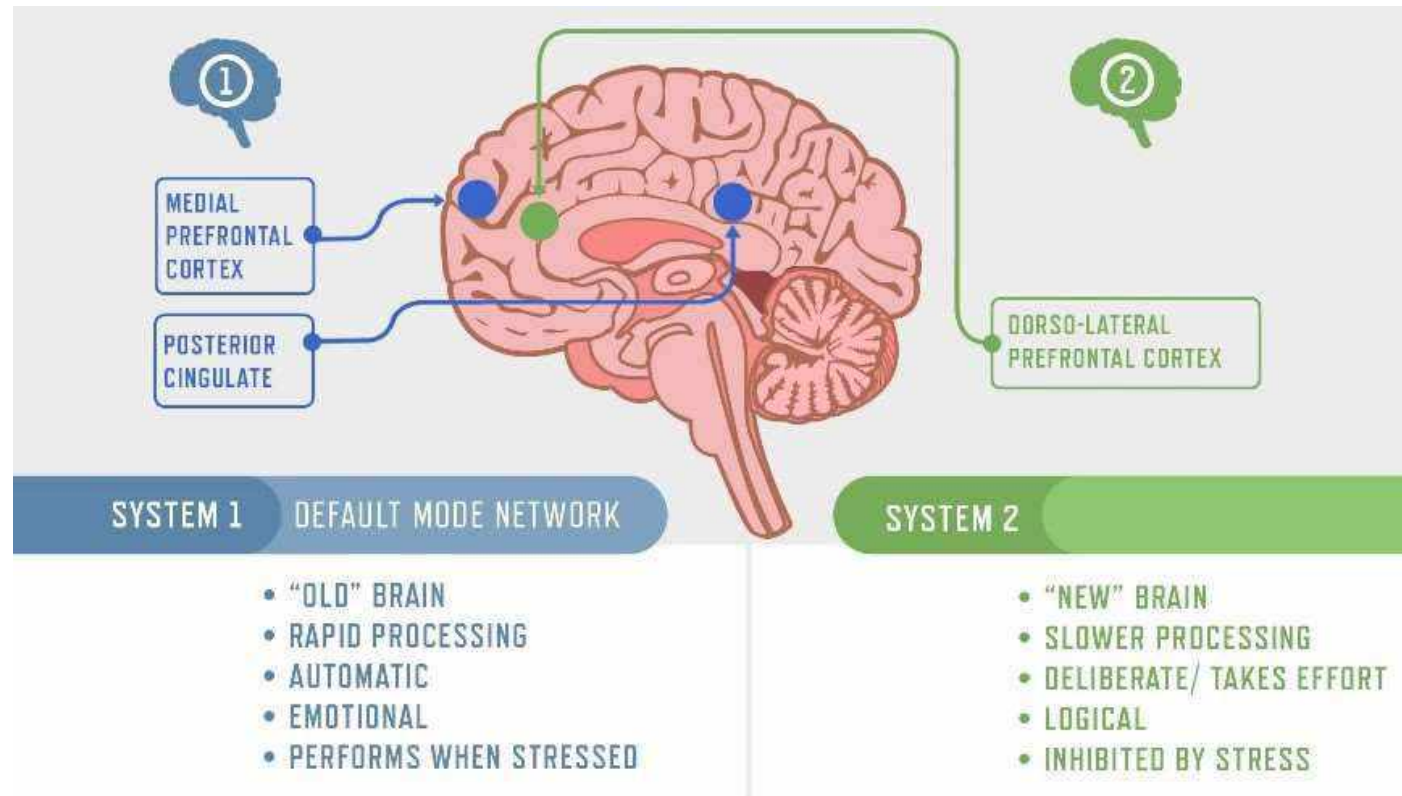
SACS Values assessment...



Objectives

1. Decisions? What decisions? And what's a good one?
2. Are we all equally capable of making good decisions?
3. **The Neurology of decision making**
4. Broadmindedness and positive emotions
5. Decision derailers – biases and other cognitive challenges
6. Decision derailers – priming
7. Reducing susceptibility to biases and priming
8. Algorithm based decision making
9. Other methods of minimising bad decisions...

New brain, old brain decisions...



Retrieved from https://medium.com/@mark_64146/our-two-brains-mindfulness-and-decision-making-ee7a1102f9bd

New brain versus old brain....

- **Old**

- Evolved to focus on the past
- Anger, fear, depression
- Largely unconscious
- Resistant to change

- **New**

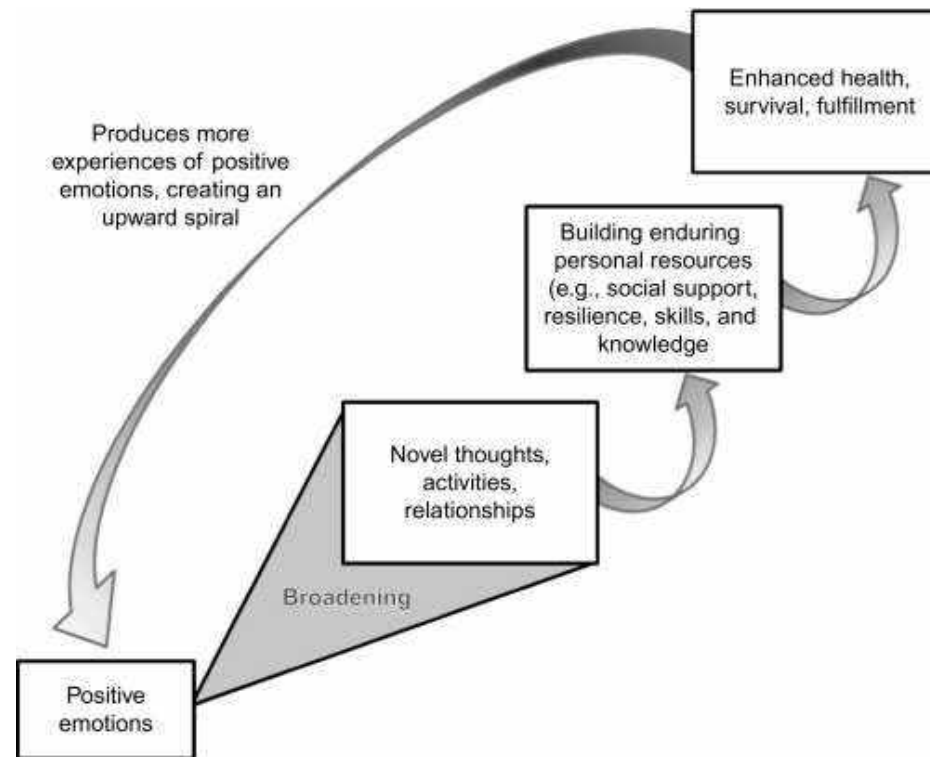
- Able to focus on the future
- Collaboration, affiliation, goodwill, optimism
- The seat of consciousness
- The driver of change and learning

Objectives

1. Decisions? What decisions? And what's a good one?
2. Are we all equally capable of making good decisions?
3. The Neurology of decision making
4. **Broadmindedness and positive emotions**
5. Decision derailers – biases and other cognitive challenges
6. Decision derailers – priming
7. Reducing susceptibility to biases and priming
8. Algorithm based decision making
9. Other methods of minimising bad decisions...

Levels of positive emotion

- Barbara Fredrickson – “broaden-and-build” theory



Positive psychology activities – individual and group

- Reducing focus on the past and concentrating on the future – making plans about how to get there
- Gratitude exercises such as “3 blessings”
- Learned optimism exercises such as three anticipations
- Acts of generosity
- Signature strength exercises
- Mindfulness activities, including meditation
- Forming collaborative work groups to work together to create an ideal future.

Objectives

1. Decisions? What decisions? And what's a good one?
2. Are we all equally capable of making good decisions?
3. The Neurology of decision making
4. Broadmindedness and positive emotions
- 5. Decision derailers – biases and other cognitive challenges**
6. Decision derailers – priming
7. Reducing susceptibility to biases and priming
8. Algorithm based decision making
9. Other methods of minimising bad decisions...

A Ranking of Recruitment Predictiveness

Measures	Validity (r)
Cognitive ability and Integrity	0.65
Cognitive ability and Structured Interviews	0.63
Cognitive ability and work sample	0.60
Work sample tests	0.54
Cognitive ability	0.51
Structured interviews	0.51
Personality tests as a measure of risk- 6 factor model with a focus on Honesty-Humility, Emotionality and Conscientiousness	0.50
Job knowledge tests	0.48
Values as a measure of risk	0.43
Integrity Tests	0.41
Personality tests as a measure of success- 6 factor model with a focus on Honesty-Humility, Emotionality and Conscientiousness	0.40
Personality tests – big 5 with a focus on Neuroticism , Conscientiousness and Agreeableness	0.40
Assessment Centres	0.37
Unstructured interviews	0.35
Biodata	0.35
Conscientiousness	0.31
References	0.26
Years job experience	0.18
Interests	0.1
Years of Education	0.1
Graphology	0.02
Age	-0.01

Source: Modified from Robertson, I.T & Smith, M. (2001)
Personnel Selection Journal of Occupational and Organisational Psychology (2001), (74), 441-472.



Key Learnings

- Testing is better than methods with a human aspect
- Type 1 and Type 2 errors (Field, 2009)
- Line managers often have difficulty with this concept, but it is a finding which has been consistent for years
- Why?

Human Beings are Prey to Biases

- **Confirmation bias** (Frey, 1986) After people reach a decision, they tend focus on supportive rather than conflicting information. Their initial perceptions (interview?) may bias their reactions to subsequent information (psychs?)
- **False consensus effect** (Ross et al., 1977). People sometimes overrate the extent to which other people share their values and beliefs. Consequently, they assume that other people will experience the same aversions toward a candidate as they do – e.g. “not a culture fit”
- **Intergroup bias** (Tajfel & Turner, 1986). People often perceive members of their own social category as superior to members of other social categories. Consequently, they will overestimate the qualities of people who belong to their ethnic group or share a similar occupation, age, school or university background.
- **Status quo bias** (Samuelson & Zeckhauser 1988). When people need to choose between two options with equivalent outcomes, they often prefer the alternative that involves the least level of change. Consequently, they will sometimes prefer an incumbent over other candidates.
- **Bias blind spot** (Pronin, Lin, & Ross, 2002). People perceive themselves to be less susceptible to biases than others. They tend to overrate the accuracy of their personal intuitions and preferences.

Example High Performance Model



High Performance Modelling Summary

Aptitudes	
35+ for Verbal Reasoning	✓
35+ for Numerical Reasoning	✓
35+ for Abstract Reasoning	✗
SACS Values	
50+ for Social Justice	✓
50+ for Rule Respecting	✗
SACS Personality	
45+ for Social Confidence	✗
45+ for Cheerfulness and Optimism	✓
56+ for Integrity-Modesty	✓
55 and below for Emotionality	✓
45+ for Extraversion	✓
45+ for Absence of Anger	✓
50+ for Conscientiousness	✓
Based on psychometric results, should this candidate proceed?	✓

Derailers of good decisions...

- **Planning fallacy** – e.g., Sydney Opera House – 14 times over budget and 10 years late
- **Narrative fallacy** – Mason Cox
- **WYSIATI** – one strongly held fact can dominate all
- **Availability heuristic** – is the world more violent?
- **Hindsight bias** – “I would have known that”
- **Representativeness heuristic** – good baseballers have a certain look
- **Loss aversion** – we hate losing anything
- **Sunk cost fallacy** – “good money after bad!”
- **Conjunction fallacy** – Linda.

Conjunction fallacy*

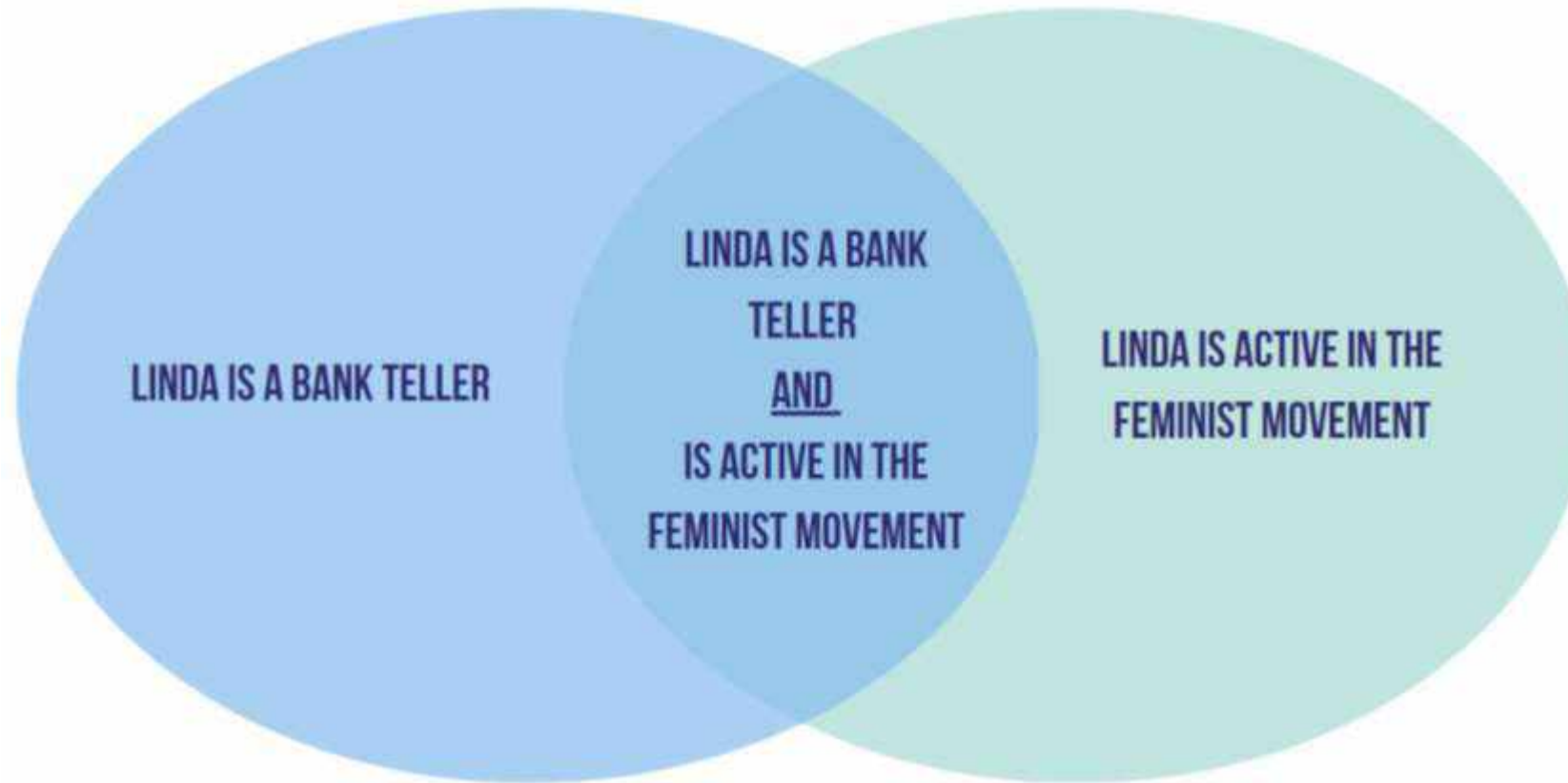
- Related to narrative bias. Example from Kahneman “Thinking, Fast and Slow”:

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in antinuclear demonstrations.

Which alternative is more probable?

- *Linda is a bank teller.*
- *Linda is a bank teller and is active in the feminist movement.*

Conjunction fallacy



Sunk cost fallacy

- Deciding to invest additional resources (e.g., time, money) in something which is not working out – e.g., “Throwing good money after bad”
- Persisting with a bad project rather than cutting your losses.

Priming

Bread

Juice

Milk

So_p

Towel

Shower

Shampoo

So_p

Priming

- Florida effect - John Bargh et al., 1966...
 - Conducted a study in which participants were provided with a list of 5-word sets and were asked to walk down a corridor to another area to complete a lexical task. Some lists contained words the researchers associated with old age including “Florida,” “old,” “lonely,” “gray,” “bingo,” “wrinkle”.
 - Participants who had been primed with words related to old age took significantly longer to walk down the hall than participants not primed with the words related to old age.

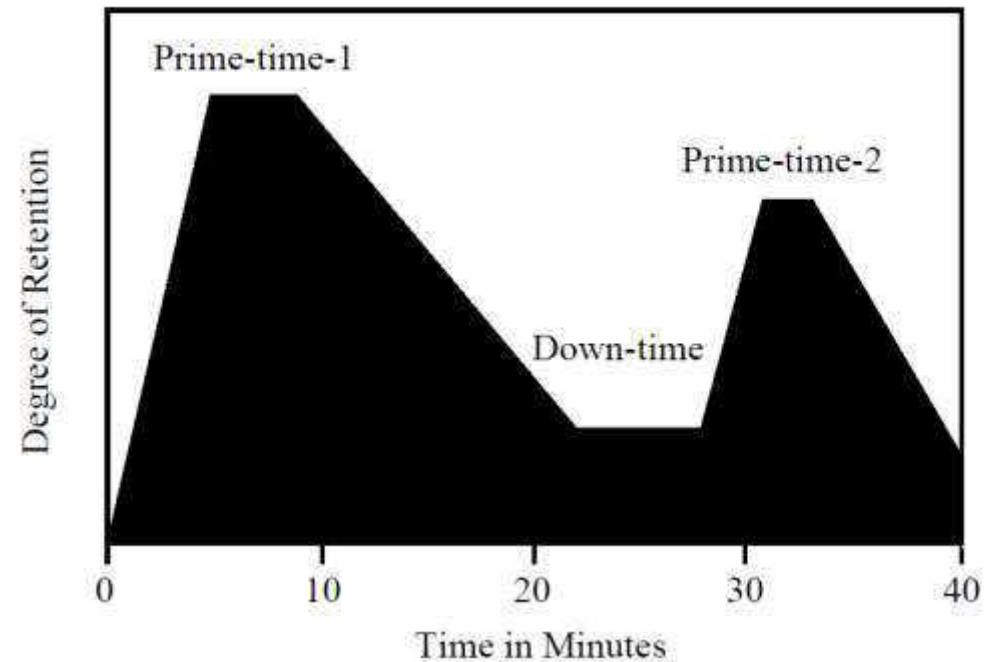
Priming

- Kathleen Vohs – found that priming participants with images of money influenced their behaviour. In 165 studies (across 18 countries) as of 2015, people primed with reminders of money as opposed to other primes were found to:
 - be less helpful, empathic and warm towards others
 - intend to work more and relax less
 - put in more effort and time on tasks and work towards goals
 - perform better on objective measures
 - feel strong and efficacious.

Primacy and recency

- Primacy and recency effects (Luchins, 1958)

Retention in a 40-Minute Learning Episode



(Sousa, 2011)

Objectives

1. Decisions? What decisions? And what's a good one?
2. Are we all equally capable of making good decisions?
3. The Neurology of decision making
4. Broadmindedness and positive emotions
5. Decision derailers – biases and other cognitive challenges
6. Decision derailers – priming
7. **Reducing susceptibility to biases and priming**
8. Algorithm based decision making
9. Other methods of minimising bad decisions...

Reducing susceptibility to biases and priming

- Unconscious Bias Training (Harvard Business Review, 2021)
 - Admit bias exists – we become mindful of our own biases
 - Bias is completely natural
 - Focus on the potential for change
 - Provide practical examples of biases and how to avoid them
- Overcoming decision making bias in leadership (Hubal et al., 2007)
 - Question and state your assumptions, defend or criticise results (Hubal et al., 2007)

Reducing susceptibility to biases and priming

- Decision making bias training in field settings (Sellier, 2019)
 - Participants who undertook a debias-training intervention (were taught about different types of biases) were 19% less likely to make a bad decision
 - Consciously look for negative evidence.

Objectives

1. Decisions? What decisions? And what's a good one?
2. Are we all equally capable of making good decisions?
3. The Neurology of decision making
4. Broadmindedness and positive emotions
5. Decision derailers – biases and other cognitive challenges
6. Decision derailers – priming
7. Reducing susceptibility to biases and priming
8. **Algorithm based decision making**
9. Other methods of minimising bad decisions...

Should I buy this wine?

- Orly Ashenfelter invented an algorithm that accurately predicts the future value of wine (correlation of .90 with actual prices) using the average temperature of the summer growing season, rainfall at harvest time and total rainfall for the previous winter

Want to predict how long a project will take and what it will cost?

- Reference class forecasting
 - Developed by Daniel Kahneman and Amos Tversky, Kahneman won Nobel Prize in Economics)
 - Reference class forecasting has been used to produce more realistic forecasts about what is likely to happen rather than rely on estimates

How is this newborn baby likely to develop?

- **Simple equal weight algorithms**
 - e.g., APGAR test – assessing a baby's condition shortly after birth
 - A total score between 0 and 10 points is generated based on 5 characteristics of the baby: skin colour, pulse, breathing, muscle tone and reflex irritability (0 to 2 points per characteristic).

Am I sick? What's wrong with me?

- Medical diagnosis generally? Computers using algorithms are at least as good as clinicians (Shen et al, 2019)
- This is an area where AI and machine learning are making great strides
- Will it be ethical for a human being to make diagnoses in future?

Thinking of hiring or promoting someone?

Measures	Validity (r)
Cognitive ability and Integrity	0.65
Cognitive ability and Structured Interviews	0.63
Cognitive ability and work sample	0.60
Work sample tests	0.54
Cognitive ability	0.51
Structured interviews	0.51
Personality tests as a measure of risk- 6 factor model with a focus on Honesty-Humility, Emotionality and Conscientiousness	0.50
Job knowledge tests	0.48
Values as a measure of risk	0.43
Integrity Tests	0.41
Personality tests as a measure of success- 6 factor model with a focus on Honesty-Humility, Emotionality and Conscientiousness	0.40
Personality tests – big 5 with a focus on Neuroticism , Conscientiousness and Agreeableness	0.40
Assessment Centres	0.37
Unstructured interviews	0.35
Biodata	0.35
Conscientiousness	0.31
References	0.26
Years job experience	0.18
Interests	0.1
Years of Education	0.1
Graphology	0.02
Age	-0.01

Source: Modified from Robertson, I.T & Smith, M. (2001)
Personnel Selection Journal of Occupational and Organisational Psychology (2001), (74), 441-472.



High Performance Modelling

HIGH PERFORMANCE MODELLING PROCESS

STEP 1

IDENTIFICATION OF HIGH PERFORMERS

These are exemplars who make the greatest contribution to organisational success.



STEP 2

PSYCHOLOGICAL TESTING

What psychological characteristics do they have in common?

BEHAVIOURAL INTERVIEWS

What skills, knowledge, values and attitudes do they have in common?

STEP 3

HIGH PERFORMANCE MODEL

Compare prospective candidates against the ideal psychological profile developed from your high performers

Link the competencies which all your high performers have in common. Write behavioural interview questions and a simple scoring system for each.

Premium Assessment

Risk Summary

This is a brief summary of risk calculations and further explanations are provided within this report.

Area of Assessment	Risk Rating
Intelligence	Low
Personality	Low
Values	Medium
Counterproductive Work Behaviours	Medium
Gender	Low
Ethnicity	Low
Age	Low
Disability	Low
Emotional Intelligence	Low
Engagement	Low
Resilience	Low
Change Resistance	Low
Safety Behaviours	Medium

Objectives

1. Decisions? What decisions? And what's a good one?
2. Are we all equally capable of making good decisions?
3. The Neurology of decision making
4. Broadmindedness and positive emotions
5. Decision derailers – biases and other cognitive challenges
6. Decision derailers – priming
7. Reducing susceptibility to biases and priming
8. Algorithm based decision making
9. **Other methods of minimising bad decisions...**

Making better decisions

- Base decisions on the past rather than a speculative future
 - E.g., A company contemplates introducing a new applicant tracking system. Ask supplier for contact details of other organisations who have implemented this applicant tracking system. Contact these organisations and ask them “how long did it take” and “what did it cost?”
- Conduct a pre-mortem
 - Imagine in a years' time we have failed at doing X. Let's write down the reasons why – what caused us to fail?
 - This activity markedly improves the accuracy of forecasts and minimises the probability of failure.

References

- Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, 71(2), 230–244. <https://doi.org/10.1037/0022-3514.71.2.230>
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist*, 56(3), 218.
- Frey, D. (1986). Recent Research on Selective Exposure to Information. *Advances in Experimental Social Psychology*, 19, 41-80. [http://dx.doi.org/10.1016/S0065-2601\(08\)60212-9](http://dx.doi.org/10.1016/S0065-2601(08)60212-9)
- Harvard Business Review. (2021). *Unconscious bias training that works*. <https://hbr.org/2021/09/unconscious-bias-training-that-works>
- Hubal, R., Staszewski, J., & Marrin, S. (2007). Overcoming decision making bias: Training implications for intelligence and leadership. *In Proceedings of the Interservice/Industry Training, Simulation and Education Conference* (pp. 798-808).
- Kahneman, D. (2011). *Thinking, fast and slow*. Penguin Books.
- Mitchell, Deborah J., J. Edward Russo, and Nancy Pennington. "Back to the future: Temporal perspective in the explanation of events." *Journal of Behavioral Decision Making* 2.1 (1989): 25-38.
- Luchins, A. S. (1958). Definitiveness of impression and primacy-recency in communications. *The Journal of Social Psychology*, 48(2), 275-290. <https://doi.org/10.1080/00224545.1958.9919292>
- Ones, D., Dilchert, S., Viswesvaran, C. & Judge, T. (2007). In Support of Personality Assessment in Organizational Settings. *Personnel Psychology*, 60, 995 - 1027. 10.1111/j.1744-6570.2007.00099.x.
- Pronin, E., Lin, D. Y., & Ross, L. (2002). The bias blind spot: Perceptions of bias in self versus others. *Personality and Social Psychology Bulletin*, 28(3), 369–381. <https://doi.org/10.1177/0146167202286008>

References

- Ross, L., Greene, D., and House, P. (1977). The “false consensus effect”: an egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology*, 13, 279–301. [10.1016/0022-1031\(77\)90049-X](https://doi.org/10.1016/0022-1031(77)90049-X)
- Rule, N. O., & Ambady, N. (2008). The Face of Success: Inferences From Chief Executive Officers’ Appearance Predict Company Profits. *Psychological Science*, 19(2), 109–111. <https://doi.org/10.1111/j.1467-9280.2008.02054.x>
- Samuelson, W., Zeckhauser, R. Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1, 7–59 (1988). <https://doi.org/10.1007/BF00055564>
- Shen J, Zhang CJP, Jiang B, Chen J, Song J, Liu Z, He Z, Wong SY, Fang PH, Ming WK. Artificial Intelligence Versus Clinicians in Disease Diagnosis: Systematic Review. *JMIR Med Inform*. 2019 Aug 16;7(3):e10010. doi: 10.2196/10010. PMID: 31420959; PMCID: PMC6716335.
- Sellier, A. L., Scopelliti, I., & Morewedge, C. K. (2019). Debiasing training improves decision making in the field. *Psychological science*, 30(9), 1371-1379.
- Sousa, D. A. (2011). *How the brain learns*. SAGE.
- Tajfel, H. & Turner, J.C. (1986) The Social Identity Theory of Intergroup Behavior. *Psychology of Intergroup Relation*, Hall Publishers, Chicago, 7-24.
- Vohs, K. D. (2015). Money priming can change people’s thoughts, feelings, motivations, and behaviors: An update on 10 years of experiments. *Journal of Experimental Psychology: General*, 144(4), e86–e93. <https://doi.org/10.1037/xge0000091>