

Module:
Psychological Foundations of Mental Health

Week 4:
Beyond basic cognition and emotion



Dr Wijnand van Tilburg
Dr Emmanuelle Peters
Dr Michael Aitken Deakin

Topic 1:
Attitudes
Part 4 of 4



The adaptive and maladaptive sides of attitudes

Function of attitudes



What information do we use to form attitudes and beliefs

Express values
(*Symbolic purpose*)

Help make quick decisions
(*Practical purpose*)



Approach what is desired
Avoid what is disliked

Heuristic =

Simple rule that is used to form an attitude judgment with little cognitive effort





How do heuristics result in attitudes?

Example: Chess

Which piece should we capture first?

Planning a complete game before it is played is impossible

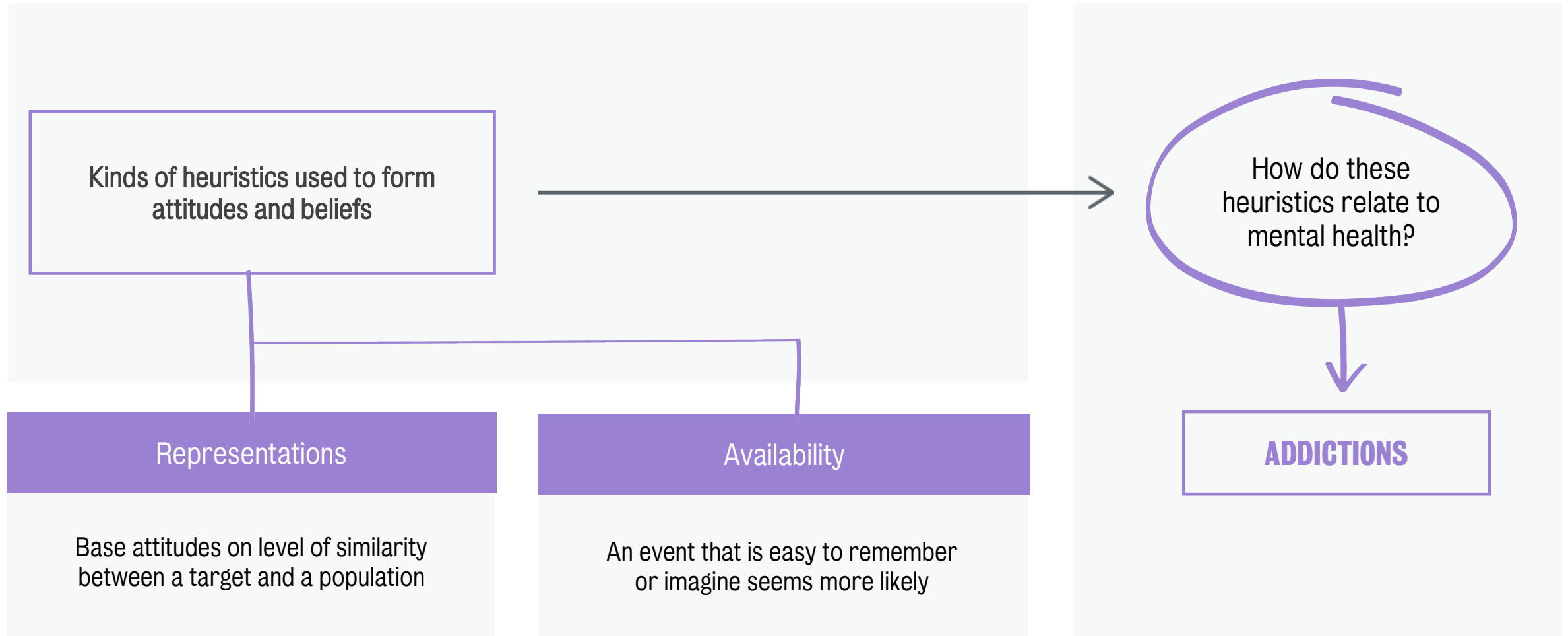
How do we play chess?

We use rules of thumb: heuristics

Heuristics do not guarantee success

They provide useful, immediate strategies

Heuristics (3)

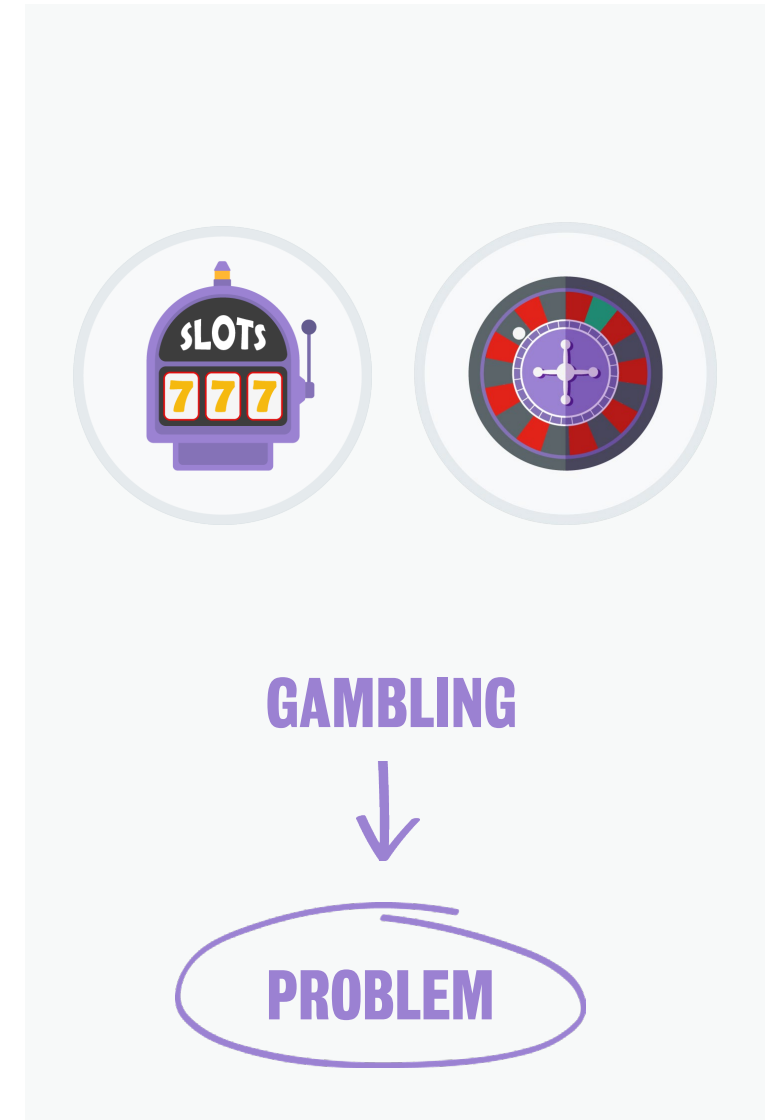
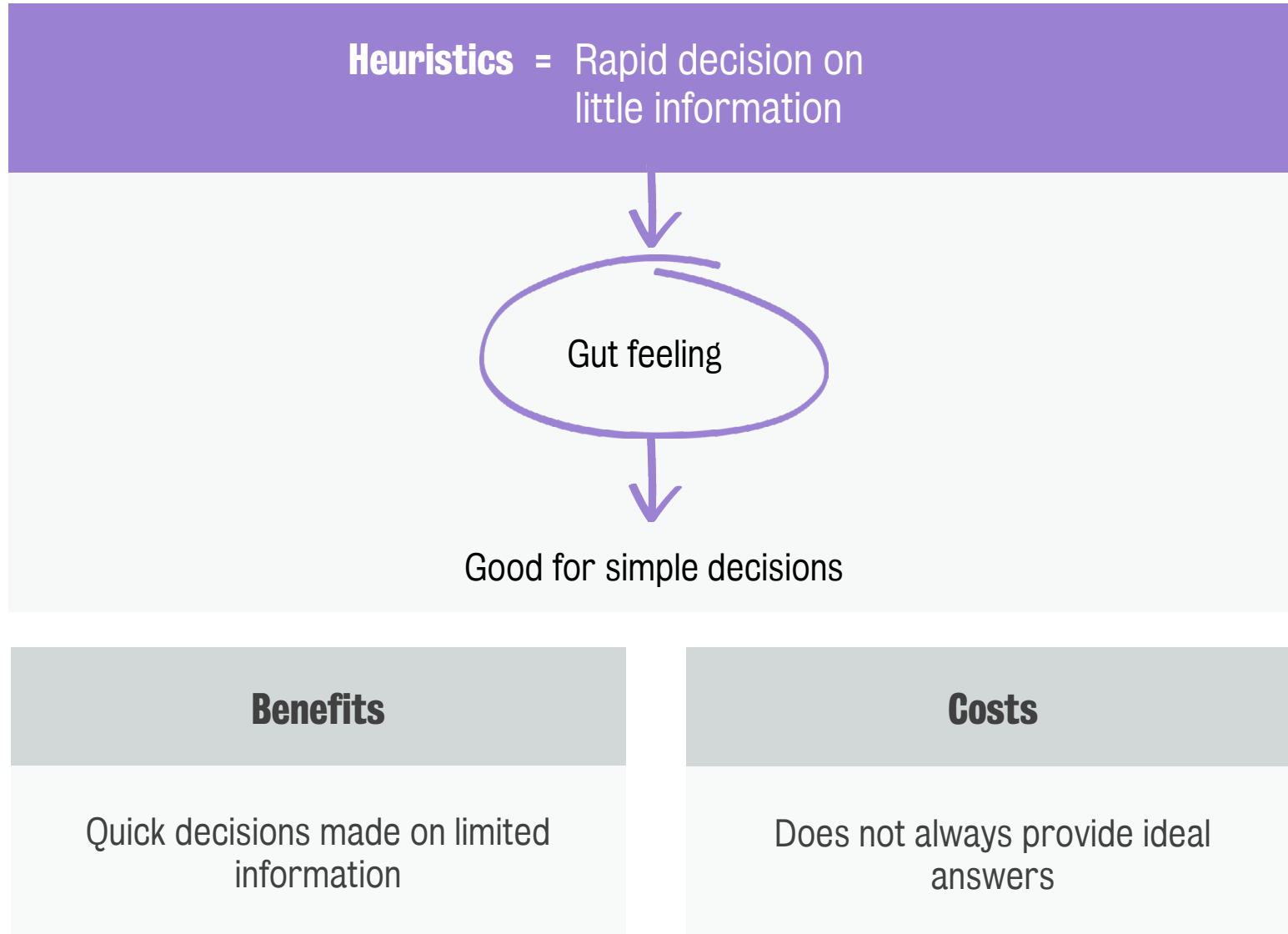


Decision making in a gambling context



Dr. Michael Aitken Deakin

Ladouceur & Walker (1996), Myrseth, Brunborg & Eidem (2010), Oei & Gordon (2008)



Ladouceur & Walker (1996), Myrseth, Brunborg & Eidem (2010), Oei & Gordon (2008)

Gambling common in the UK

70% of population gambles once a year



Psychologists study the types of
cognition gamblers rely on



Certain beliefs lead to
an oversaturation of
one's chances of winning

- Problem gamblers are more susceptible to these kinds of cognitive distortions
- Individuals with higher levels of this kind of distortion respond less well to treatment
- Cognitive therapy that targets this kind of distortion seems to help these individuals better control their behaviour

Steenbergh et al (2002), Raylu & Oei (2004)



Slot machines

How do specific kinds of games lead to cognitive disorders?

Near win or
near miss

“Almost
winning”

Creates beliefs that you are
more likely to succeed next time



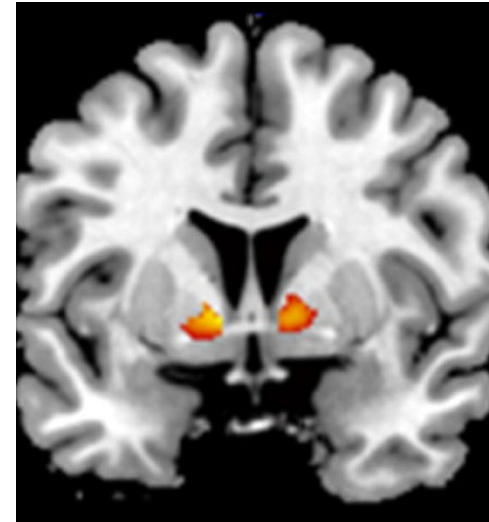
Sense of control
changes perception



These distortions are underpinned by biological processes

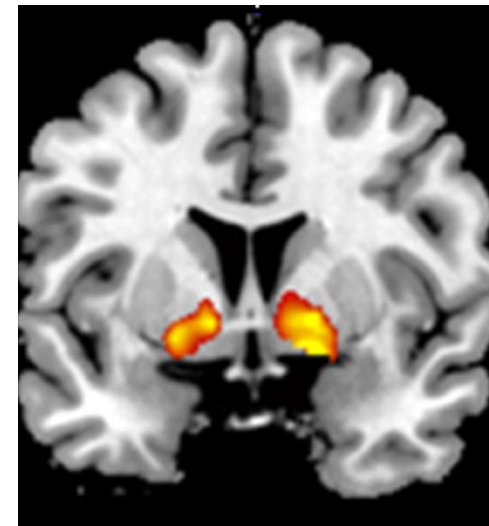
Near big win: Brain activation similar to that of a win

People responded to near wins as if they were wins



Near - Wins

The brain responds to a loss that is 'nearly a win'



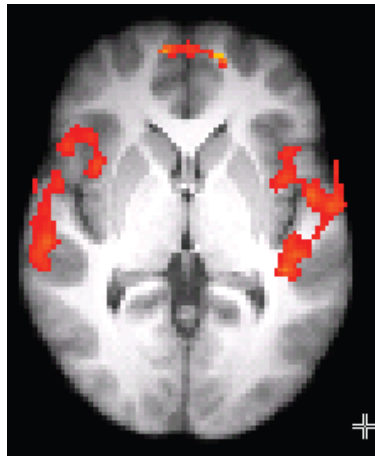
Wins

... it seems to react as if it was actually a *win*

Clark, Lawrence, A, Astley & Gray (2008)

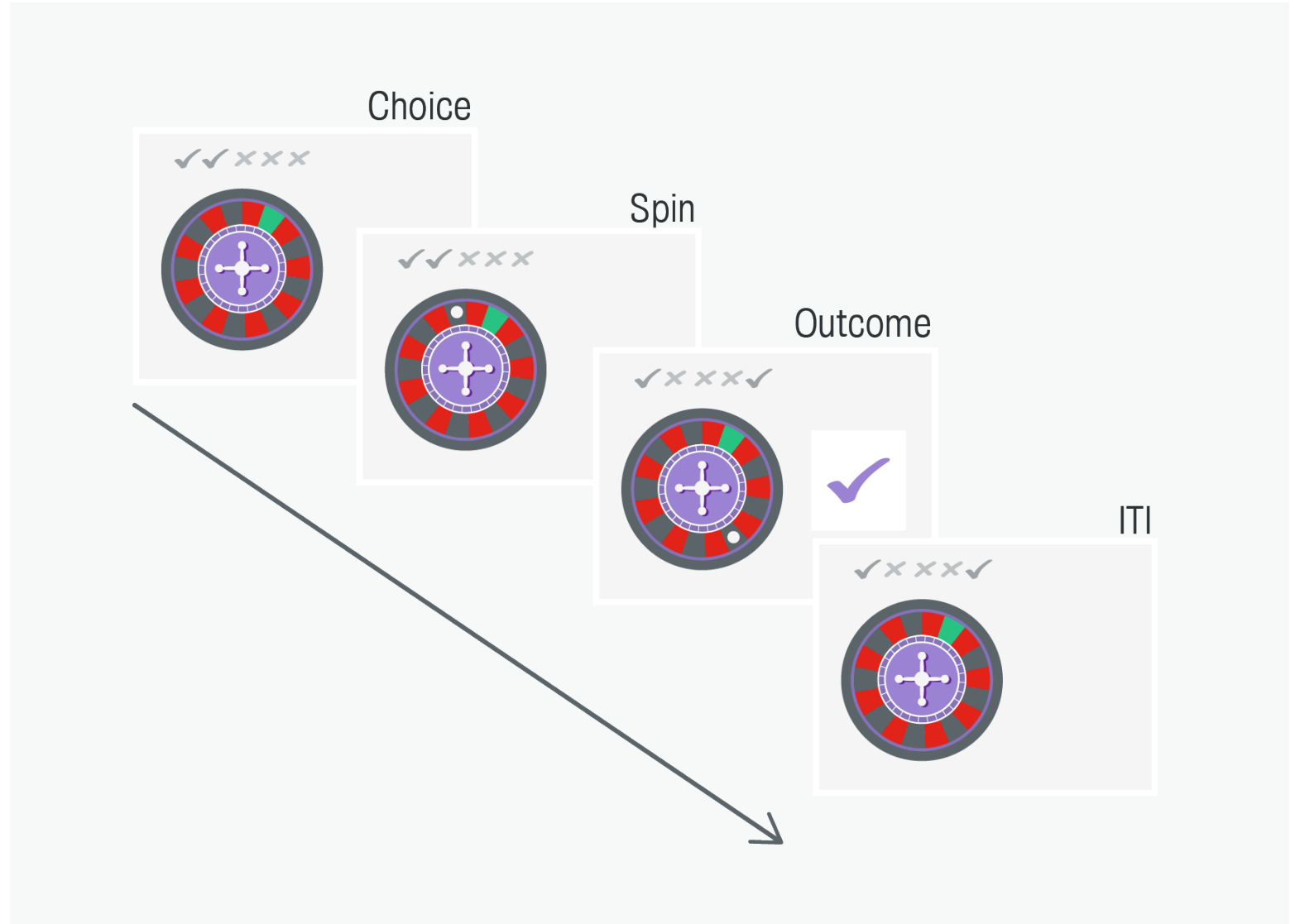
Gambler's Fallacy

The amount of activation associated with a win is influenced by the length of the colour run before the bet.



Win * Colour Run
 $z = 0; x = 8$

Bilateral insula, frontal pole, the medial PFC, and the postcentral gyrus showed a differential modulation of activation by Colour Run Length.



Conclusion:

- Understanding cognitive and neural processes helps develop treatments for those who cannot control gambling behaviour

References

- Brett, C.M.C., Peters, E.R., McGuire, P.K. (2015). Which psychotic experiences are associated with a need for clinical care? *European Psychiatry*, 30: 648-54
- Bohner, G., & Wänke, M. (2002). *Attitudes and attitude change*. Hove, UK: Psychology Press: 136.
- Cacciotti-Saija, C., Langdon, R., Ward, P. B., Hickie, I. B., Scott, E. M., Naismith, S. L., ... & Guastella, A. J. (2015). A double-blind randomized controlled trial of oxytocin nasal spray and social cognition training for young people with early psychosis. *Schizophrenia Bulletin*. 41: 483-93
- Carhart-Harris, R. L., M. Kaelen, M. Bolstridge, T. M. Williams, L. T. Williams, R. Underwood, A. Feilding, and D. J. Nutt. (2016). The Paradoxical Psychological Effects of Lysergic Acid Diethylamide (LSD). *Psychological Medicine* 46: 1379–90.
- Clark, L., Lawrence, A. J., Astley-Jones, F. & Gray, N. (2008). Gambling near-Misses Enhance Motivation to Gamble and Recruit Win-Related Brain Circuitry. *Neuron* 61: 481–90.
- Kumari, Veena, Dominic Fannon, Emmanuelle R. Peters, Dominic H. ffytche, Alexander L. Sumich, Preethi Premkumar, Anantha P. Anilkumar, et al. (2011). Neural Changes Following Cognitive Behaviour Therapy for Psychosis: A Longitudinal Study.” *Brain* 134: 2396–2407. doi:10.1093/brain/awr154.
- Ladouceur, R., & Walker, M. (1996). A cognitive perspective on gambling. In P. M. Salkoskvis (Ed.), *Trends in cognitive and behavioural therapies* (pp. 89–120). New York: Wiley
- Linscott, R. J. & Van Os, J. (2013). An updated and conservative systematic review and meta-analysis of epidemiological evidence on psychotic experiences in children and adults: on the pathway from proneness to persistence to dimensional expression across mental disorders. *Psychological Medicine*, 43: 1133-1149
- Myrseth H, Brunborg GS, Eidem M. Differences in cognitive distortions between pathological and non-pathological gamblers with preferences for chance or skill games. *Journal of Gambling Studies*. 2010;26:561–569.
- Oei TP, Gordon LM. (2008) Psychosocial factors related to gambling abstinence and relapse in members of Gamblers Anonymous. *Journal of Gambling Studies* ;24:91.

References

Petty, R.E. & Cacioppi, J.T. (1986). The Elaboration likelihood Model of Persuasion. *Advanced Experimental Psychology*. 19: 123-205.

Peters, E., Ward, T., Jackson, M., Morgan, C., Charalambides, M., McGuire, P., Woodruff, P., Pamela Jacobsen, P., Chadwick P., Garety, P.A. (2016). Clinical, socio-demographic and psychological characteristics in individuals with persistent psychotic experiences with and without a “need for care”. *World Psychiatry*, 15: 41–52.

Raylu, N. & Oei, Tian P. S. (2004). The Gambling Related Cognitions Scale (GRCS): Development, Confirmatory Factor Validation and Psychometric Properties. *Addiction (Abingdon, England)* 99: 757–69.

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Steenbergh, T. A., Meyers, A. W., May, R. K., & Whelan, J. P. (2002). Development and validation of the Gamblers' Beliefs Questionnaire. *Psychology of addictive behaviors*, 16: 143-149.

Steenbergh, T. A., Meyers, A. W., May, R. K. & Whelan, J.P. Development and Validation of the Gamblers’ Beliefs Questionnaire. *Psychology of Addictive Behaviors* 16: 143–49.

Van Os, J., Linscott, R. J., Myin-Germeys, I., Delespaul, P., & Krabbendam, L. (2009). A systematic review and meta-analysis of the psychosis continuum: evidence for a psychosis proneness–persistence–impairment model of psychotic disorder. *Psychological Medicine*, 39, 179-195