EXPERIMENT: IOWA GAMBLING TASK

1. Iowa Gambling Task: card-drawing, economic prize
   1. Real-life decision-making: insufficient knowledge, uncertainty, common findings link to SMH (Damasio)
   2. SMH: brain (vmPFC) links bodily changes and knowledge ass. w. event (e.g. loss/gain)
      1. Re-encounter: linkage activates somatic markers (autonomic, endocrine, musculoskeletal) -> emotional biasing signals –> intuition/marking (“good”/ “bad”)
      2. Reactivation: facilitates reasoning (e.g. bad = bad), SMs serve as heuristics
2. Experiment: computer, 4 decks (A, B, C, D), start capital 2000 DKK, reward/penality
   1. Task: earn money
   2. Decks C/D = profitable (small rewards, gain), decks A/B = unprofitable (big rewards, loss)
   3. Reward: ‘winning’ sound, penalty: harsh buzz
   4. Hypotheses: feedback create SM patterns to guide, pattern installed -> better decisions/strategy -> higher profit in 2nd, previous studies: risk tolerance declines w. age
3. Figure 1: mean no. draws per deck (2nd: ↓unprofitable, ↑profitable, sig. interaction, learning)
   1. Paired t-tests (sig. dif. between no. draws): sig. both sessions (bigger dif. for 2nd)
      1. Discovered relationship in 1st, strategy applied too late
      2. End capital: sig. greater in 2nd, end session 1 ~2000 DKK
4. Capital earnings: one-sample t-tests (1st: not sig. dif. from 2000, 2nd: sig. dif. from 2000)
   1. Further confirms learning over game (random draws -> end capital ~2000)
   2. Together results confirm hypothesis: participants able to learn rel., employ goal-directed strategy -> great capital in session 2
   3. Individual example (Figures 2/3): learning curve evident (browse, suffer losses, employs strategy, steady increase in capital)
5. Age: no sig. correlation w. end capital (2nd), contradicting hypothesis
   1. No evidence for greater loss aversion w. age (homogenous sample, skewed, biased std.)
6. Criticisms: ecological val. (fictional capital, no real-life implications, untrue to real-life -> more risky), SMs operationalised as sounds (no SCR)
7. Other: James-Lange, Cannon-Bard, prospect theory, Knowlton et al. (amnesic vs. Parkinsons)
   1. vmPFC (Damasio: index for links, Purves: common currency) lesions: impairment IOWA, Wason and Wisconsin card sorting intact (normal IQ), Insula: monitor interoception