EXPERIMENT: TVA

1. TVA: mathematically model visual attention parameters
   1. Idea: visual stimuli compete/race for lim. attentional resources, parallel processing
   2. TVA test: examines which stimuli reach consciousness/”win”, participant response/ability to distinguish stimuli (brief time), mathematically estimate parameters
      1. Threshold for perception (t0): display time needed
      2. VSTM capacity (*K*): maximum number of letters that can be held in VSTM
      3. Processing speed (*C*): letters per second
      4. Selectivity (α): allocate resources, top-down control, favour relevant, 0 = perfect
      5. Weight to each position, calculate tendency to favour left/right, Windex, 0,5 = equal
2. Method: computer, stimuli on-screen (brief display), circle around fixation point, eye gaze at fixation, presentation, report targets (fairly certain)
   1. Trials: all targets (16-200 ms), distractors, outcome var.: ACC (feedback: risks/guessing)
   2. Hypotheses: longer display -> more targets correct, selectivity present but imperfect, no spatial biasing, previous studies: C and K correlation, age w. all parameters
3. Figure 1: mean no. correctly reported targets across display times
   1. Main effect, time: longer display allows more correct report (expected), increase in no. correctly identified letters smaller for greater display times: levelling off at capacity lim.
   2. 2T4D condition: report >1 (selectivity), perfect = report 2 (150 ms allow >2), one-sample t-test: sig. dif. from 2 (confirm imperfect selectivity)
   3. Figure 2: TVA plot select participant, read some parameters, incl. t0 (graph deviates from 0 on y-axis, ~20-25 ms), *K* (graph levels off, ~3,3 items), *C* (tangent line at t0)
4. Correlations: pos. cor. K and C (figure 3), not independent (overlap -> common neural base)
   1. Pos. cor. age and α: older = worse selectivity, no other age correlations (contradict hypothesis –> age distribution of sample skewed towards 20s)
5. Sig. dif. on any parameters between men and women: table 1, independent samples t-tests
   1. One sig. dif.: windex (men: 0,50 equal; women: 0,54 left), one sample t-test: sig. dif. from 0,50 whole sample (observed dif. reflect unequal sample distribution)
   2. Against expectations: tendency rooted in cultural bias (reading left –> right), bias could cause participants to move eye gaze (overt), issue: control for eye movement
6. Broad perspective: article 3 (IPS/IOS), overt/covert, endogenous (voluntary) vs. exogenous (automatic), hemispatial neglect (r. inf. parietal), ADHD (α, inhibition of irrelevant)