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Does cognitive style predict participation in colorectal and prostate cancer screening?
Two forms of cognitive processing

• **Experiential** processing
  – Fast and autonomous
  – Instinct, intuition, associative learning
  – Independent of working memory
  – Old in evolutionary terms

• **Rational** processing
  – Effortful and algorithmic
  – Abstract, hypothetical thinking
  – Relies on working memory
  – Thought to have evolved recently
Experiential and rational processing

• Default-interventionist model of operation:
  – experiential processes rapidly provide an outcome
  – rational processes may intervene and revise it.

• Individual differences in use of each system.

• **Cognitive style** (CS): stable, trait-like
• Measured by the Rational-Experiential Inventory (REI)
• Reliance on, and ability in, each processing type:
  – rational processing: **Need for Cognition** (NFC) scale
  – experiential processing: **Faith in Intuition** (FI) scale
Rational-experiential inventory

• NFC scale example items
  – I don’t like to have to do a lot of thinking
  – I try to avoid situations that require thinking in depth about something
  – I prefer complex to simple problems

• FI scale example items
  – I believe in trusting my hunches
  – My initial impressions of people are almost always right
  – When it comes to trusting people I can usually rely on my “gut feelings”
Cognitive style and health

• Higher NFC linked with
  – Preference for text-based information, better recall
  – Higher internal locus of control
  – Greater effectiveness for gain-framed messages

• Lower NFC linked with
  – Preference for emotion-based messages
  – Respond better to pictorial information
  – Greater susceptibility to ratio bias

Does CS have any relationship with healthy behaviours?
Does CS vary across demographic groups?
This study

- Baseline survey: demographic items, past screening
- Mailed faecal occult blood test (FOBT)
- Endpoint survey: REI

- Final sample N = 585 men (of N = 2400 invited)

- Behavioural outcomes to be predicted:
  - Self-reported prostate cancer screening: PSA test, DRE
  - Self-reported colorectal cancer screening: FOBT test
  - Measured participation in mailed FOBT test

- Analysis: structural equation modelling using AMOS
Predicting NFC and FI

χ²(62) = 224.83, p < .001, CFI=.93, RMSEA=.07, 90% CI (.06, .08)
Predicting prostate screening

$r = .11, p = .015$

$\chi^2(97) = 284.41, p > .001, CFI = .92, RMSEA = .06, 90\% \text{ CI (.05, .07)}$
Limitations

• Sample a poor representation of the Australian population
  – Over half of sample resided in highest two SES deciles
  – Four times the rate of postgraduate education
  – FOBT uptake rate double that of the national program

• REI has been improved upon since the version used
Conclusions

• Men who identified as enjoying effortful thought were slightly more likely to report undergoing a DRE than men who disliked thinking hard. It did not make a difference whether men trusted or distrusted their gut reactions.

• FOBT screening (self-reported and observed) not predicted.

• Reasons for these results may be:
  – Aspects of DRE considered using rational processes more motivating
  – NFC linked to willingness to report DRE
  – DRE involves more active choice than FOBT or PSA
Implications

- As FI is less tied to demographics, including experientially processed information may be beneficial for individuals
  - who are less educated
  - who are more socially disadvantaged
  - for whom English is not the first language.

- Needs further exploration in more diverse samples
- Worth considering more habitual healthy behaviours
References