School-based gambling education programs

A systematic review

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The authors would like to acknowledge DOOLEYS Lidcombe for their financial support to conduct a preliminary scoping report on gambling education programs for adolescents.

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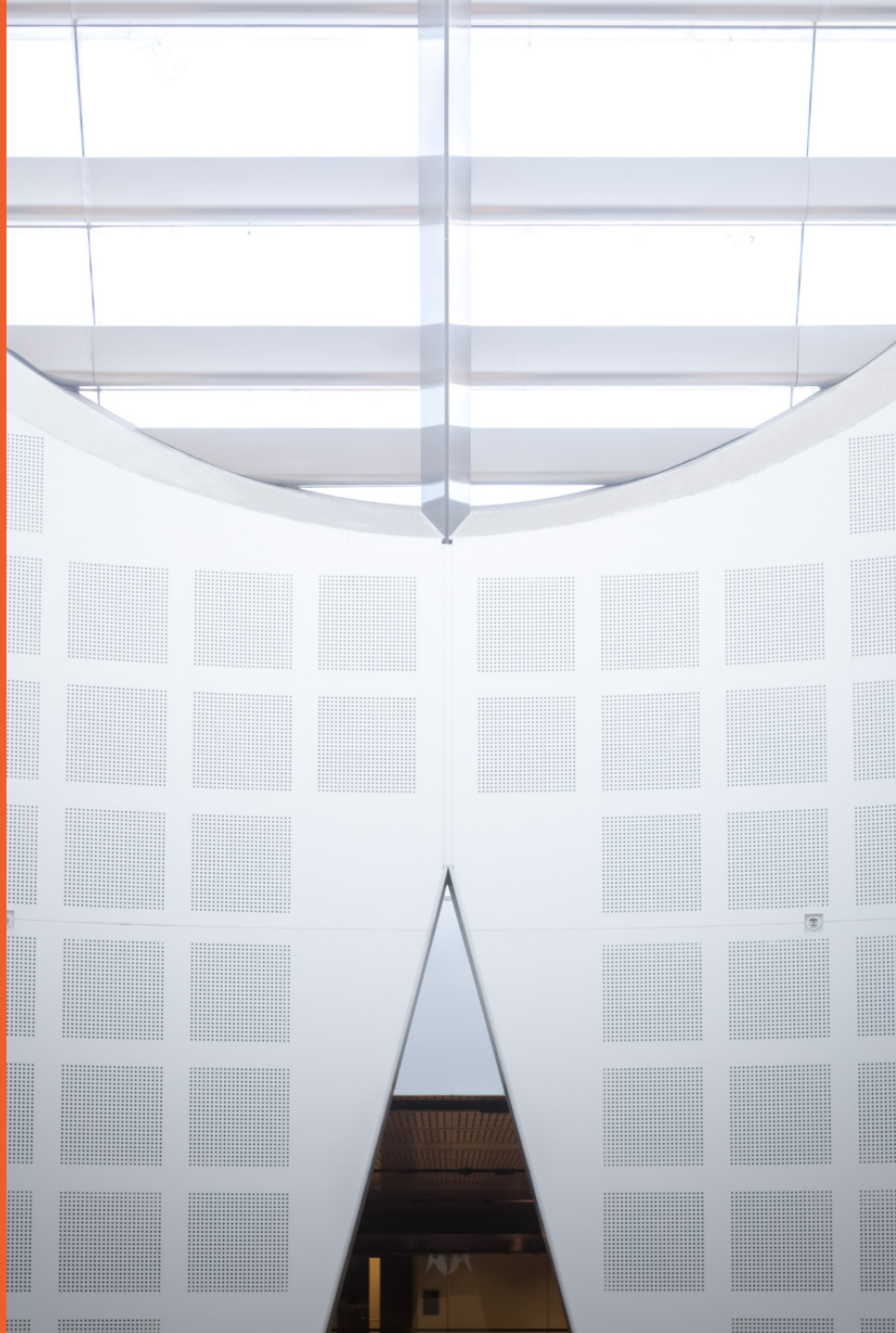


Background

The issue

- Adolescence is a crucial time for learning and development
  - Employment
  - Social Independence
- Transition to adulthood
- Ideal opportunity to intervene
  - Embed healthy ideas

Background

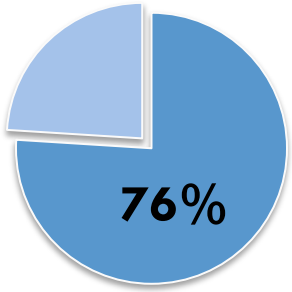
Overview

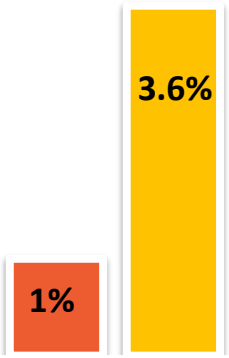
- Reviewing gambling harm prevention/minimisation programs delivered in an educational setting
  - Content and design
  - Empirical evaluation
  - Efficacy
- Recommendations

Background

Prevalence

- Most young Australians gamble





- Reported rates of PG in adolescents are 3-10 x higher than adults
  - SOGS-RA
  - DSM-IV-J, DSM-IV-J-MR
  - MAGS
  - CAGI
- More likely to use Internet to access gambling

Preventive measures

- Multiple school-based programs exist
- Few have been evaluated for their efficacy

Background

Effective prevention principles and practices

An effective education program should…

1. Be comprehensive
2. Include varied teaching methods
3. Provide sufficient dosage
4. Be theory driven
5. Provide opportunities for positive relationships
6. Be appropriately timed
7. Be socio-culturally relevant
8. Include outcome evaluation
9. Use well-trained staff

(Nation et al., 2003)

Background

Universal vs. targeted intervention (Ladouceur et al., 2013)

Universal

– Treats everyone equally

✓ Adequate prevention (no one misses out)

✗ Not able to tailor intervention to at-risk

Targeted

✓ Can tailor intervention specifically to at-risk and PG

✗ May miss those without risk factors but who later develop PG

✗ Risk factors can be unreliable – PG in adolescence does not necessarily predict PG in adulthood.

The current review

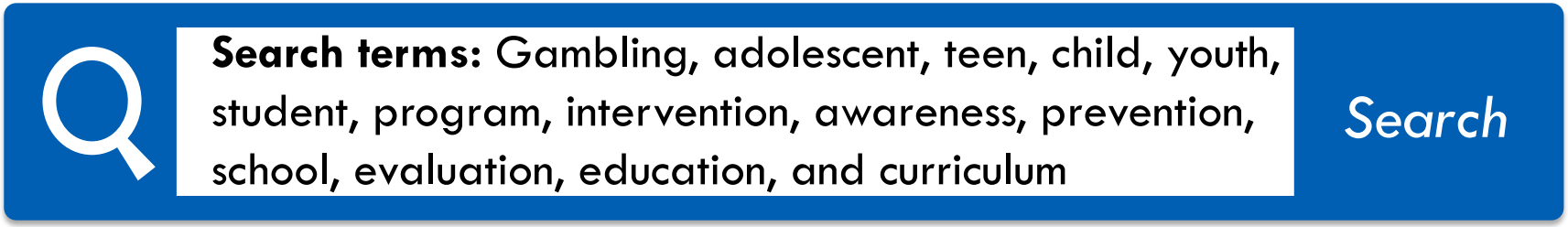
Aim: To evaluate existing gambling harm prevention/minimisation programs delivered in an educational setting

Methodology

Followed PRISMA statement guidelines for systematic reviews

Search strategy

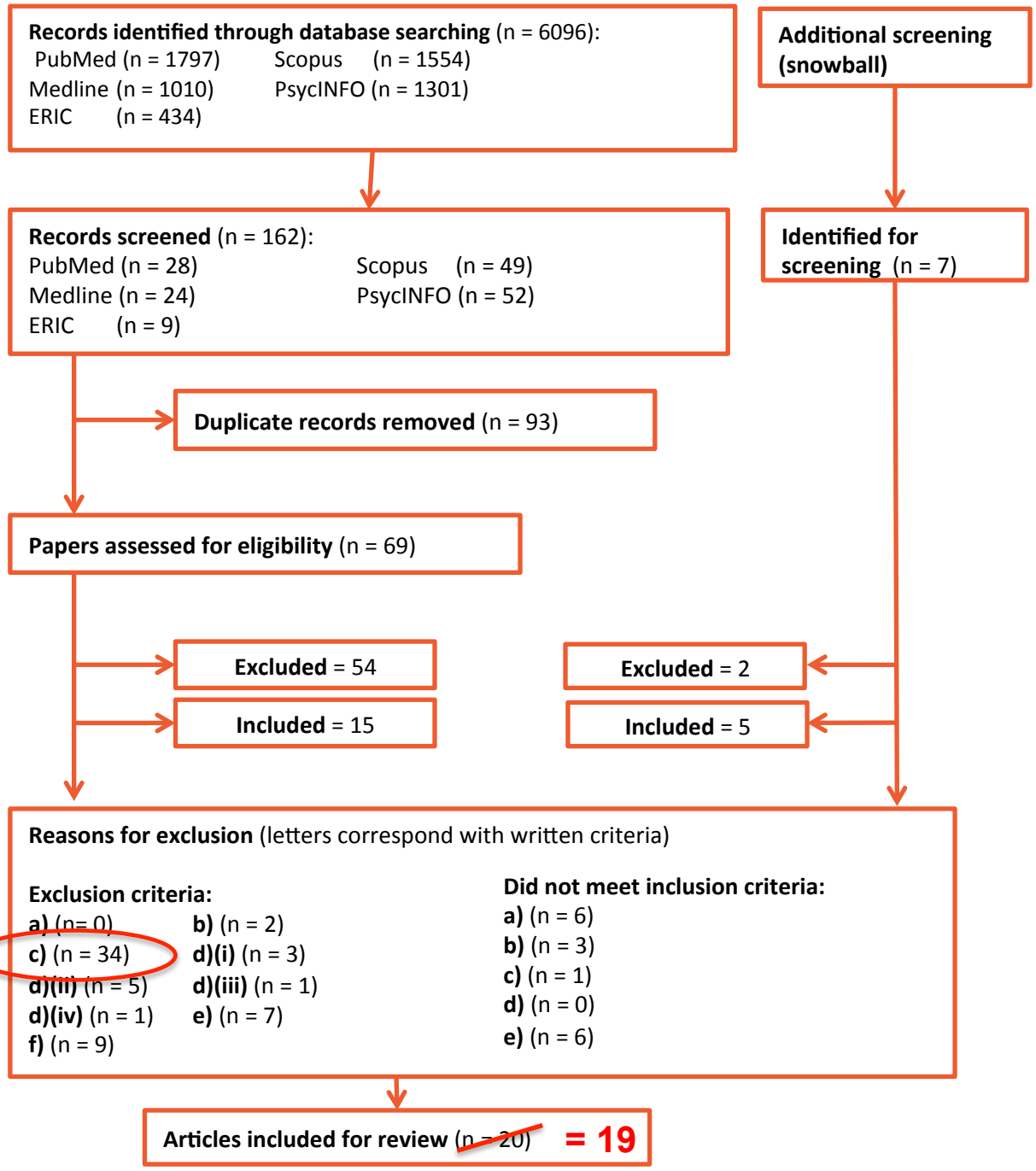
- PubMed
- Scopus
- Medline
- PsycINFO
- ERIC



Methodology

- Evaluate gambling education program
- Administered in school with students
- Report on primary data + quantitative pre-post intervention scores

- Not available full text or English
- Reviews, conceptual or opinion
- Reported on programs that were
  - Therapeutic setting
  - Media campaign or policy/ public announcement
  - Stand-alone website
- Only qualitative data



- Reviews
- Conceptual
- Opinion
- No original data

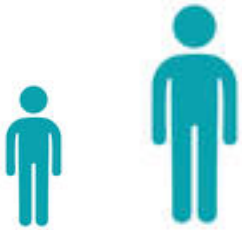
Quality Assessment Tool (summary)

Component	Rating
Selection bias	Moderate
Study design	Strong
Confounders	Strong
Blinding	Moderate
Data collection methods	**Weak/Moderate**
Withdrawal and drop-outs	Weak-Strong

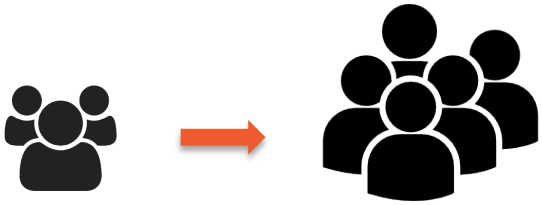
National Collaborating Centre for Methods and Tools. (2008). *Quality Assessment Tool for Quantitative Studies.* Hamilton, ON: McMaster University. (Updated 13 April, 2010). http://www.nccmt.ca/resources/search/14

Study sample (n=19) characteristics

Demographics



- Aged 10-18

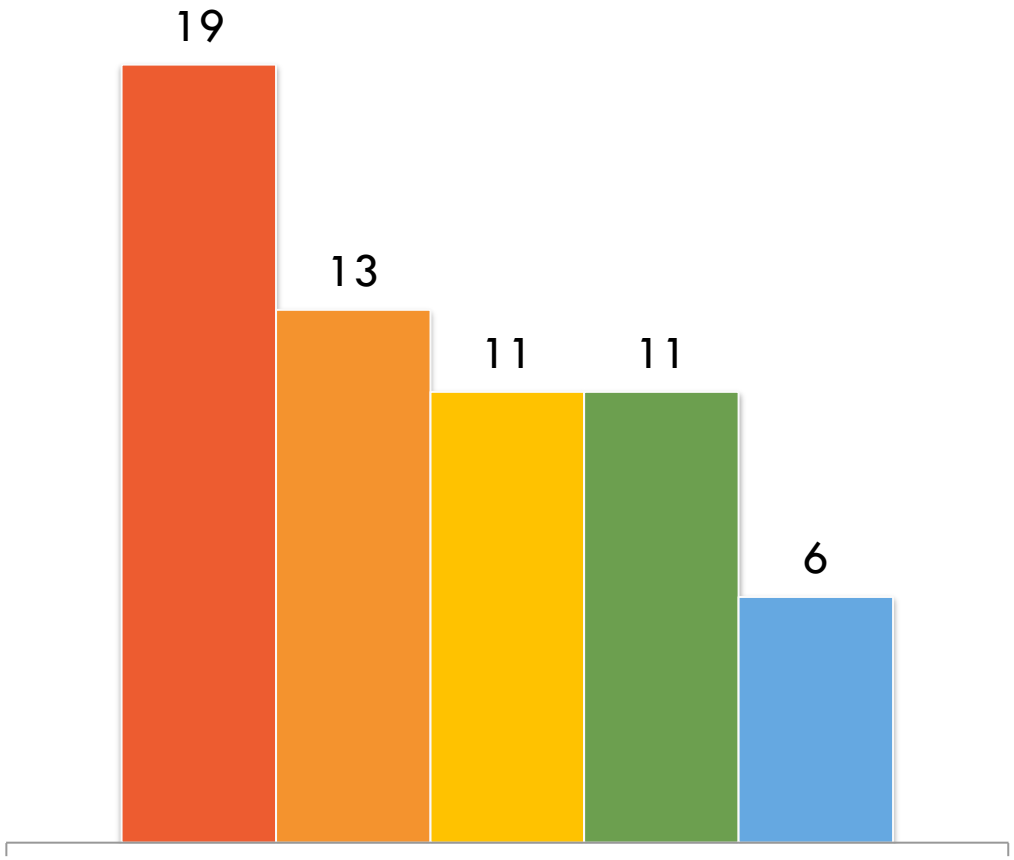


- Analysis sample = 75 to 8,455

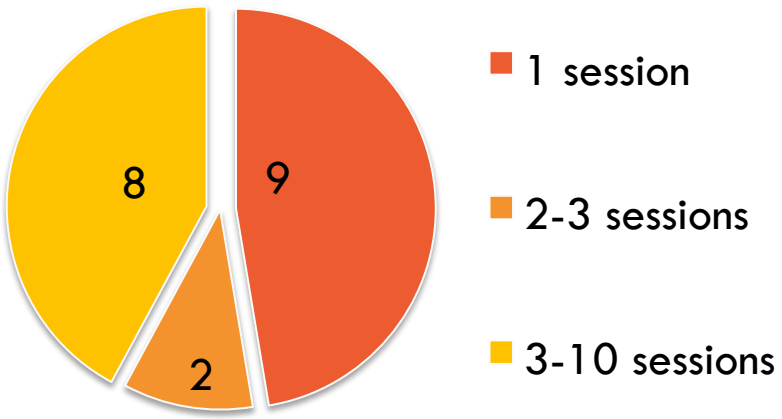
- Even gender

Results

Content



Dosage & duration



- Comprehensive programs appear to have better outcomes

- **Program duration:**
  - 20-500 minutes ($M = 194.71$)
- **Session duration:**
  - 20-120 minutes each
  - 1-10 sessions ($M = 3.53$)

Delivery mode

- Combination of multimedia tools
  - 16/19 multimedia
  - 5/19 solely multimedia
- Classroom activities/discussions
- Gambling specialist > teacher in reducing cognitive errors
  (Ladouceur et al. 2003)
  - Teachers are time-poor
  - Specialists have more authority
  - Specialists know the content better

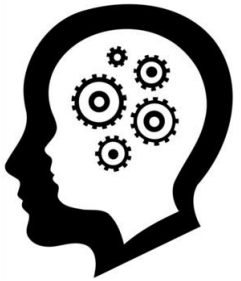
Results

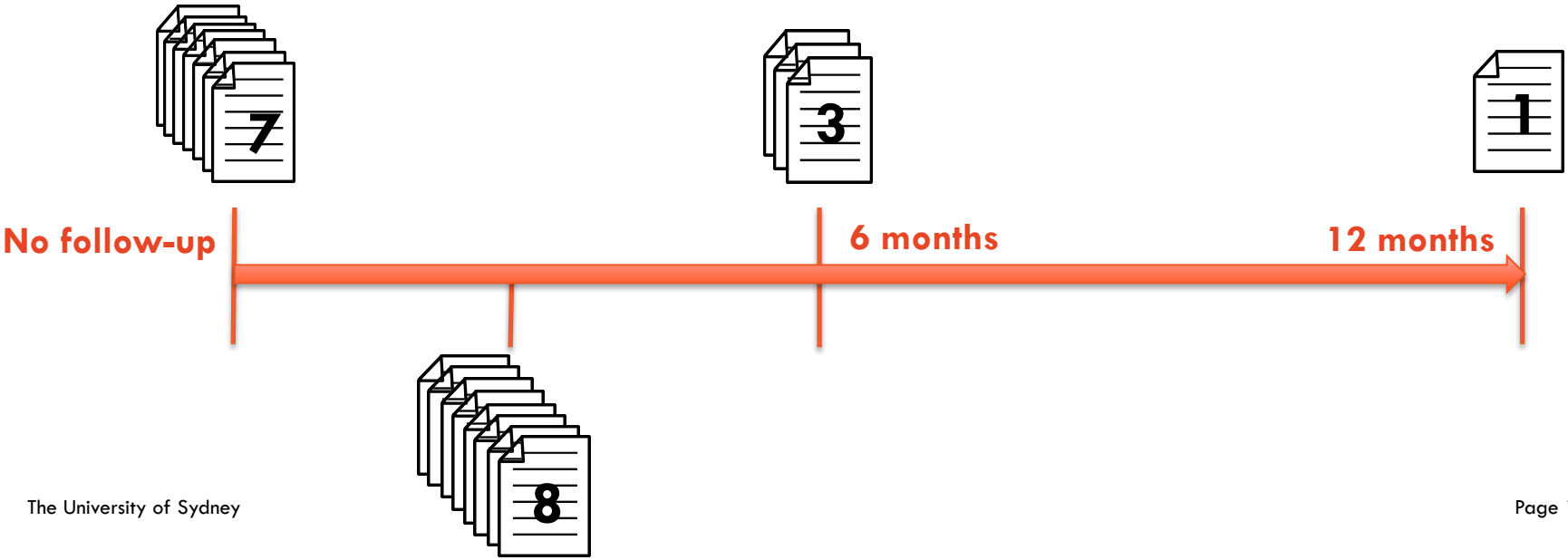
Design

- Most were cluster RCTs (by school or class)

Measures

- 19 measured cognitive outcomes
- 9 measured behavioural/PG status outcomes
- Brief follow-up assessments





Outcomes

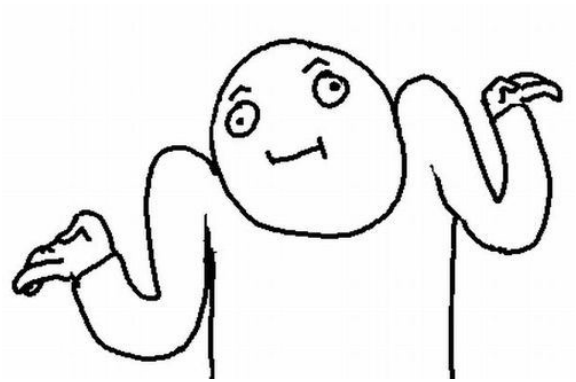
Domain/gambling specific cognition

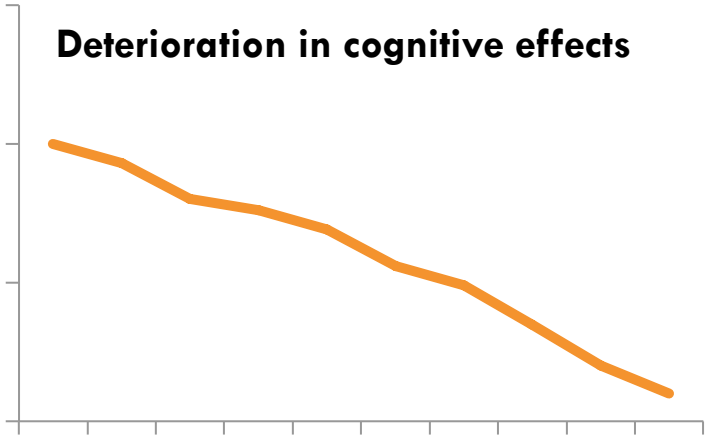
- Knowledge (odds, chance vs. skill)
- Misperceptions (fallacies, errors)
- Attitudes (pos/neg, profit/loss)

General skills

- Coping, problem-solving, decision-making, awareness/self-monitoring

BUT does this help reduce/prevent PG?





Interpretation challenges

Cognitive-behavioral outcomes

△ Cognition ≠ △ Behaviour

- ✓ Measure cognition, BUT X measure behaviour = ?
- ✓ △ Cognition , ✓ measure behaviour = △ behaviour SOMETIMES

= Cognitive △ does not necessarily lead to behavioural △ ?

? Not the right cognitive △ (content and dosage)

? Problem with behavioral measure

- No adjustments for 12 month time-frame

Interpretation challenges

Meaningful behavioral (status) change

- △ PG ≠ meaningful outcomes
  - Low expenditure
    - M exp < €10/month
    - Med loss = $10/3 months
    - 4% loss >$51/month

Other challenges …

- Self-reported data
  - Net exp vs. turnover
  - Reliability of responses (wins over losses)

"How much do you spend gambling?"

- Operationalisation of gambling (money!)

  - Jewellery?
  - Clothing?
  - Food?
  - Bragging rights??

Limitations

- No meta-analysis
- No comparable measure of effect size
- Two non-English studies were excluded
- Publications bias

Recommendations

Recommendations
Universal implementation
Early as possible (early high school)
Prevent problems NOT just gambling
Increased dosages of complex mathematical concepts (Randomness, Profitability)
Comprehensive, staggered, integrated? (suited to complex content)
Theory driven
Relevant to youth (interactive delivery)
Follow-ups into adulthood

Nation et al.'s characteristics of effective programs
1. Be comprehensive
2. Include varied teaching methods
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