Testing the Effectiveness of a School-Based Inoculation Procedure on Automatic Substance-Use Cognitions

a place of mind
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Introduction

The facts:

- Faulty beliefs (myths) regarding drug effects often precede experimentation with drugs among young adolescents.[1]
- For better or worse, decision making (including experimentation) is often driven by System One (fast and automatic) cognitions. [2]
- Inoculation training can be used to counter automatic pro-drug use myths by presenting a warning preceding a myth, refuting the myth, then reinforcing anti-drug use beliefs. [3]

For example:

Warning: You will hear some myths regarding substance use
Myth: "Marijuana is not addictive"
Refutation: It can be addictive due to the effects of THC.

The Goal:

- Our goal was to gauge how well inoculation training affects automatic substance-use cognitions.

Hypotheses

1. People who receive anti-substance use inoculation training curricula will exhibit more anti-substance use cognitions and exhibit resistance to substance use myths in real-world situations.
2. Inoculation training for a substance-specific myths (i.e. only marijuana or alcohol) will confer greater resistance to target substance-use myths than non-targeted myths.

Methods

Participants:

- 54 grade 6 and 7 students from a large public school district in Western Canada were tested as a supplemental component of their Health and Career Education class.

Procedure:

1. All students were exposed to Lesson One, in which they discussed types of health and healthy attitudes and behaviors
2. Students were then presented with either an Alcohol or Marijuana inoculation lesson on-line (counterbalanced)
3. One day later, students completed assessments (Outcome Expectancy Liking Task, Cartoon Dialogue responses) followed by the second inoculation lesson (counterbalanced)

Analyses

- Chi-square analyses were used to assess the impact of inoculation training on implicit and explicit alcohol and marijuana cognitions.

Results

- As Figure 2 below suggests, in the OEL, students in both the marijuana and alcohol inoculation training groups have significantly negative expectations of marijuana and alcohol use.
- However, in both conditions there is no significant difference in either group between marijuana and alcohol negative outcome expectancies.

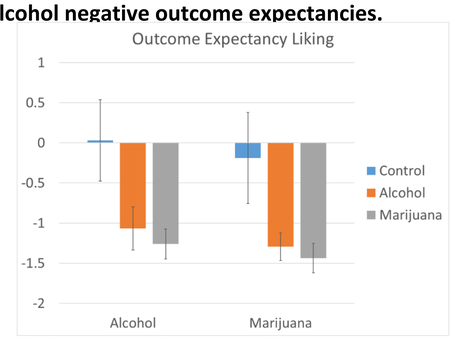

Figure 2: outcome expectancies of alcohol and marijuana use.

- As seen in Table 1, in response to alcohol cartoon dialogue scenarios, students from the alcohol condition were more likely (31.8%) than students in the marijuana condition (22.0%) to use responses taught in inoculation curriculum.
- Furthermore, students from the marijuana condition were more likely (46.4%) than students in the alcohol condition (42.5%) to use responses taught in inoculation curriculum.
- However results while suggestive are not significant.

Discussion

Results:

- Overall, students who received anti-substance use inoculation training exhibited more negative cognitions regarding substance use than controls (OEL scores).
- In regards to cartoon scenarios, those who had received inoculation training for a specific substance (either marijuana or alcohol) appeared to utilize inoculation training lessons better as a means of refuting corresponding substance use myths.

Limitations:

- Generalizability may be an issue as sample was mainly Caucasian and localized to SD 22 in Vernon.
- The cartoon response has yet to be validated as a measure.
- Instruction styles of HABIT materials varied from teacher to teacher within the school environment.

Future steps for the HABIT program and inoculation training:

- The HABIT pilot program will continue to be optimized, and may become implemented in schools as part of the regular curriculum.
- Future research regarding the inoculation training component of HABIT could be used to demonstrate how effective inoculation training is by comparison to traditional information based educational methods.

Methods Continued

Summary of Measures

- The Word Association Task (WAT)
  - In this task, respondents are instructed to write down the first behavior or word they associate with a word such as "pot." [4]
- The Outcome Expectancy Liking Task (OELT)
  - In this task, respondents are asked to produce four outcome expectancies for a behaviour such as "consume a moderate amount of alcohol" then asked to rate how much they would like or dislike the outcome on a five-point scale. [5]
- The Cartoon Dialogue Response Task
  - In this task, respondents are presented with two marijuana and two alcohol substance-use myth scenarios and are permitted to respond freely.
  - Responses are coded into four categories: Uncodeable, Ambivalent, Response with Information NOT from Curriculum, Response with Information FROM Curriculum

Table 1: Percent cartoon response rate that was consistent with curriculum materials.

Average percentage of Responses From Curriculum		
	Alcohol Cartoon response rate (%)	Marijuana Cartoon response rate (%)
Alcohol Condition	31.8	42.5
Marijuana Condition	22.0	46.4

Cartoon Dialogue Response Task

Figure 1: Example of how cartoon dialogue task was used to assess retention and application of inoculation training materials.

References

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