A longitudinal study of risk factors for early adolescent alcohol misuse: *role of alcohol expectancy and self-efficacy*

Jason Connor, Suzi George, Ross Young, Matt Gullo, Adrian Kelly

Centre for Youth Substance Abuse Research

Presenter: Jason Connor

Symposium Part B: The Science that Informs Practice
How can we value ++ to Adolescent Substance Use Research

• Can be theoretically restricted (scope vs size)
• More focus required on developmental theories
• With some notable exceptions (eg. International Youth Development Study [IYDS]), largely cross-sectional association studies
• Retention rates often less that desirable
• Can be narrow indices of alcohol misuse and alcohol-related problems
• Risk- Conceptual overlap in measurement
Social Cognitive Theory

• Learning fundamentally occurs from family environment and peers (Albert Bandura)
• Vicarious learning - early age
• 1. Outcome Expectancies
• 2. Self-Efficacy Expectancies (“foundation of human agency”)
• Significant influence on substance use disorders aetiology, treatment and prevention
Alcohol Expectancy

Balanced Placebo Studies

Condition 1
- Expect Alcohol
- Receive Alcohol

Condition 2
- Expect Alcohol
- No Alcohol

Condition 3
- No Alcohol Expectation
- Receive Alcohol

Condition 4
- No Alcohol Expectation
- No Alcohol
Self-Efficacy
Alcohol Expectancy Model


Methodology

• Three Brisbane Catholic Education schools
• Longitudinal design
• Baseline: 192 Grade 9 students
• Active consent- children and parents
• 12 month follow up: 170 Grade 10 students
• Retention rate: 88.5%
• Standardised psychometric measures used
Measures

- **Alcohol Expectancy**
  - Drinking Expectancy Questionnaire – Adolescent Version
- **Drinking Refusal Self Efficacy**
  - Drinking Refusal Self-Efficacy Questionnaire – Revised Adolescent Version
- **Problem Drinking (composite index)**
  - Quantity and Frequency
  - Alcohol Use Disorders Identification Test
- **Control Variables**
  - Peer Drinking
  - Gender
  - Age
  - Past Year Smoking
  - Strengths and Difficulties Questionnaire
  - Time 1 Problem Drinking
Sample Characteristics

Gender Breakdown in Sample at Time 1:
- Males: 55.7%
- Females: 44.3%

Age Breakdown of Sample at Time 1:
- 13 yrs: 4.2%
- 14 yrs: 28.5%
- 15 yrs: 67.2%

Ethnicity:
- Australian: 65.4%
- ATSI: 9.9%
- South Sea Islander: 19.9%
- European: 1.6%
- Asian: 1.6%
- Other: 2.1%
Baseline Alcohol Consumption

Alcohol Quantity

Students' (%) Average Quantity of Alcohol Consumption per Drinking Occasion (N = 192)

Drinkers (n= 110): M = 4.6, SD = 6.1
Baseline Alcohol Consumption

Alcohol Frequency

Students' (%) Average Frequency of Alcohol Consumption per Month (N = 192)

<table>
<thead>
<tr>
<th>Days per Month</th>
<th>Percentage of Grade 9 Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 days</td>
<td>42.7</td>
</tr>
<tr>
<td>1 - 2 days</td>
<td>41.1</td>
</tr>
<tr>
<td>3 - 5 days</td>
<td>9.9</td>
</tr>
<tr>
<td>6 - 10 days</td>
<td>4.7</td>
</tr>
<tr>
<td>Over 10 days</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Drinkers (n= 110) : M = 2.8, SD = 3.7
Change in Students’ Alcohol Consumption Over Time - Quantity

Change in Students' Mean Quantity of Alcohol Consumption over Time (n= 170)- includes abstainers

- Baseline: 2.38 Standard Alcohol Units
- 12 month Follow-Up: 3.73 Standard Alcohol Units
Change in Students’ Alcohol Consumption Over Time - Frequency

Change in Mean **Frequency** (Days per mth) of Alcohol Consumption Over Time (n=170)- includes abstainers

<table>
<thead>
<tr>
<th>Time Points</th>
<th>Days/Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>1.55</td>
</tr>
<tr>
<td>12 month Follow-Up</td>
<td>2.31</td>
</tr>
</tbody>
</table>

*Change in Students’ Alcohol Consumption Over Time - Frequency (n=170) includes abstainers.*
Change in Students’ AUDIT Scores Over Time

Change in Students' Mean AUDIT Scores Over Time
(n=170)

<table>
<thead>
<tr>
<th>Time Points</th>
<th>AUDIT Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>2.08</td>
</tr>
<tr>
<td>12 month Follow-Up</td>
<td>4.41</td>
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</tbody>
</table>
Preliminary Measurement Models

- Alcohol Expectancies
- Drinking Refusal Self-Efficacy
- Composite Problem Drinking Index
- Statistical Approach- Structural Equation Modelling (SEM)
The structural model tested includes:

- Time 1 Expectancy
- Time 1 Drinking
- Time 2 Drinking
- Time 1 Self-Efficacy

The model was tested with:

\[ \chi^2 (116) = 266.94, \ p < .05 \]

CFI = .91, RMSEA = .08

Covariates controlled for (not shown):
- Peer drinking
- Gender
- Age
- Past-year smoking
- SDQ Difficulties + Strengths
STRUCTURAL MODEL TESTED

\[ \chi^2 (116) = 266.94, \ p < .05 \]

\[ CFI = .91, \ RMSEA = .08 \]

Covariates controlled for (not shown):
- Peer drinking
- Gender
- Age
- Past-year smoking
- SDQ Difficulties + Strengths
Exploring the role of expectancies...
\( \chi^2 (77) = 157.26, \ p < .001 \)

CFI = .94; RMSEA = .07

Covariates controlled for (not shown):
- Peer drinking
- Gender
- Age
- Past-year smoking
- SDQ Difficulties + Strengths
Take Away Message

- Alcohol is consumed (reported) in about ½ of this age group (modal age 14)
- From 14 > 15 years of age drinking increases significantly
- Key developmental period
- Consistent with Social Cognitive Theory- Alcohol Expectancies are mediated by Self-Efficacy beliefs
- Holds even in a very conservative model
- Capacity for prevention and behaviour modification...