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### Today's Webinar:



Personality-targeted interventions for prevention: the Preventure program.

A/Prof Nicola Newton & Ms Erin Kelly

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Dr Louise Thornton & Ms Dana Leidl

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Drugs & Alcohol and the Maturing Adolescent Brain.

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## Drugs and Alcohol

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## What is *Positive Choices* ?

[www.positivechoices.org.au](http://www.positivechoices.org.au)

- Central access point for trustworthy, up-to-date drug and alcohol information and educational resources
- Learning resources, factsheets, videos, and games to engage young people with drug education
- Access to classroom-based drug prevention programs that are proven to reduced drug-related harms

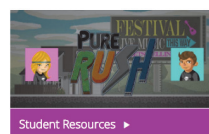
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Teacher Resources ▶



Parent Resources ▶



Student Resources ▶

Developed by NDARC and NDRI, in consultation with teachers, parents and students. Funded by Australian Department of Health.

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## Personality-targeted interventions to prevent substance use and mental ill health: The Preventure program.

A/Prof Nicola Newton  
Ms Erin Kelly



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## Outline

1. Background .....
2. Adaption for Australian students
3. Clinical examples
4. Results from the Australian trial



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## Why prevent?

- 240 million adults worldwide suffer from an alcohol use disorder (*Gowing et al, 2015*).
- Burden of disease and social costs associated with alcohol use disorders is substantial (*Whiteford et al, 2010*).
- Alcohol use among Australians aged 12-17yrs (*ASSAD, 2011*).
  - **74%** have tried alcohol
  - **6.4%** binge drink (4+ drinks) at least weekly
  - **62%** have experienced at least one negative outcome in past year (e.g 36% vomited)



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## Why prevent?

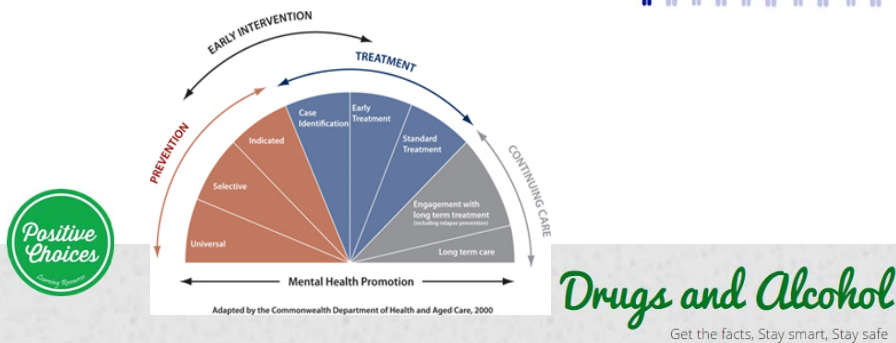
- Early initiation leads to:
  - Substance use disorders
  - Comorbid mental health problems
  - Poor academic performance/drop out
  - Neuropsychological deficits
- Each year we delay the onset of drinking we reduce the odds of developing an alcohol use disorder by 9% (*Grant et al., 2001*)
  - Effective prevention is therefore critical



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## Types/levels of prevention *(IOM, 1994)*

1. **Universal:** Delivered to entire populations regardless of level of risk. Modest effect sizes.
2. **Selective:** Targeted to groups at greatest risk of developing problems. Larger ESs. Stigma...
3. **Indicated:** Delivered to those experiencing early symptoms of a disorder. Most \$\$.



## Selective 'Preventure' program *(Conrod et al)*

- Personality-targeted prevention program (13-14yr olds)
- Aims to increase coping skills to prevent alcohol use and associated harms in "high-risk" adolescents



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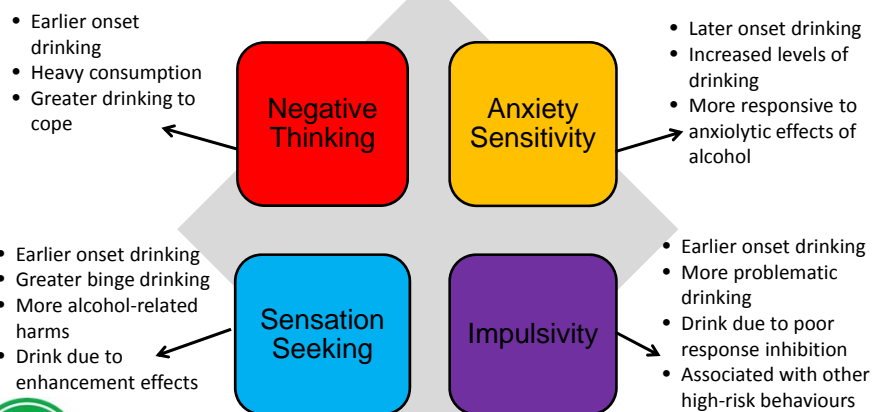
## Selective 'Preventure' program (Conrod et al)

- Targets four personality profiles linked to adolescent substance misuse & psychopathology (Woicik et al., 2009)
  - **Negative Thinking (NT)**
    - low mood, negative beliefs about self, others & future
  - **Anxiety Sensitivity (AS)**
    - fear of anxiety-related physical sensations
  - **Impulsivity (IMP)**
    - rapid decision-making & action, poor response inhibition
  - **Sensation Seeking (SS)**
    - elevated need for stimulation, risk-taking



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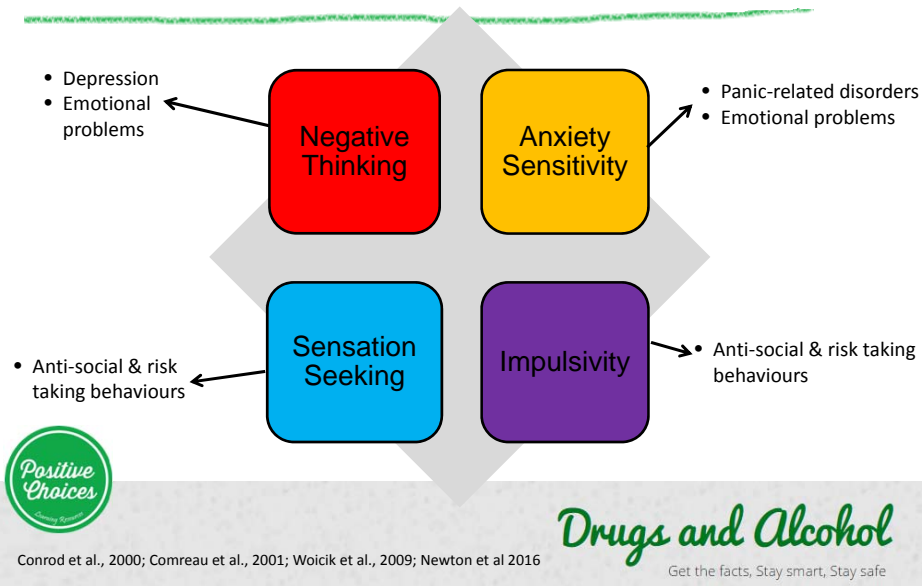
## Personality and substance use



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Conrod et al., 2000; Comreau et al., 2001; Woicik et al., 2009; Newton et al 2016

## Personality and psychopathology



## Prevention components

- **Step 1:** Screen for risk using the Substance Use Risk Profile Scale (SURPS)

- 23-item self-report scale
- Assesses risk along 4 personality dimensions - **NT**, **AS**, **IMP**, **SS**.
- Measures personality and not substance use, therefore identifying adolescents "at risk" for substance use prior to the onset of use.
- Previous studies of the SURPS have demonstrated:
  - Reliable & valid in predicting substance use and emotional problems
  - High cross-cultural validity in UK, The Netherlands, Sri Lanka, China, Mexico, Japan & Australia

(Woicik et al., 2009; Castellanos-Ryan et al., 2013a; Krank et al., 2011; Lammers et al., 2013; Malmber et al., 2010; Siu, 2011; Robles-Garcia et al., 2014; Omiya et al., 2015; Newton et al., 2016).



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## SURPS (Woicik et al., 2009)

### Negative Thinking (7 items)

- 1. I am content or satisfied\*
- 4. I am happy\*
- 7. I have faith that my future holds great promise\*
- 13. I feel proud of my achievements\*
- 17. I feel that I'm a failure
- 20. I feel pleasant\*
- 23. I am very enthusiastic about my future\*

Participants are asked to indicate the extent to which they agree with each item on a 4-point scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree).

\*Reverse scored item



\* Items to be reversed for scoring

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## SURPS (Woicik et al., 2009)

### Anxiety Sensitivity (5 items)

- 8. It's frightening to feel dizzy or faint
- 10. It frightens me when I feel my heart beat change
- 14. I get scared when I'm too nervous
- 18. I get scared when I experience unusual body sensations (feelings)
- 21. It scares me when I am unable to focus on a task



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## SURPS (Woicik et al., 2009)

### Impulsivity (5 items)

- 2. I often don't think things through before I speak
- 5. I often involve myself in situations that I later regret being involved in
- 11. I usually act without stopping to think
- 15. Generally, I am an impulsive person
- 22. I feel I have to be crafty or manipulative (sneaky) to get what I want



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## SURPS (Woicik et al., 2009)

### Sensation Seeking (6 items)

- 3. I would like to skydive
- 6. I enjoy new and exciting experiences even if they are out of the ordinary
- 9. I like doing things that frighten me a little
- 16. I am interested in experience for its own sake, even if its illegal
- 19. I would enjoy hiking long distances in wild and uninhabited territory



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## Preventure components

**Step 2:** Invite high-risk students to partake in interventions

- 2 x 90 minute coping skills workshops
- Focused on personality, not substance use.
- Delivered by trained facilitators and co-facilitators
- **Facilitator training** = 3 day workshop + supervision
  - **Day 1:** Theoretical underpinning covering personality, motivation & CBT
  - **Day 2:** Basic counselling skills
  - **Day 3:** Reviewing CBT & MI principles + role plays
  - **Supervision:** 3 hours of supervision delivering interventions



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## Preventure components

**Step 2:** Invite high-risk students to partake in interventions

- Interventions are based on:
  - **motivational interviewing:** goal setting, pros and cons
  - **cognitive-behavioural therapy:** understanding links between thoughts, physical sensations, actions; identify and challenge personality-specific cognitive distortions:

**Negative Thinking:**  
Internalising, over-generalisation, false conclusions

**Anxiety Sensitivity:**  
Over-estimating the possibility, thinking the worst

**Impulsivity:**  
Not thinking things through, aggressive thinking

**Sensation Seeking:**  
thinking in extremes, needing to stand out



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## Outline

1. Background .....

2. Adaption for Australian students

3. Clinical examples

4. Results from the Australian trial



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## Adapting *Preventure* for Australian students

- Prior to trialling *Preventure* in Australian schools, the team adapted it to make it more appropriate for students in Australia
- This involved focus groups with 69 students from 3 schools, a focus group for health professionals (n=5), and a survey with teachers (n=6)
- Students were screened with the SURPS; invited 'high risk' students to participate in focus groups based on corresponding personality type
  - 10 focus groups (5-8 students), approx 90mins
    - Questionnaire
    - Manuals (specific to their personality type), encouraged to provide feedback verbally/on post-it notes



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## Feedback from focus groups and surveys

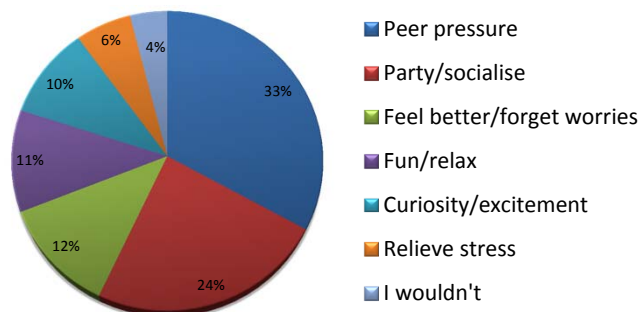
- Students provided good suggestions
  - Scenarios – why would you/wouldn't you drink? Personality specific scenarios
  - Graphics/Vocab – general appearance, characters, places, activities, technology
- Teachers/health professionals
  - Indicated the program was already appropriate in terms of learning, educational content, student acceptability, and efficacy
  - Manuals to be updated and made more relevant for Australian adolescents (scenarios, graphics, vocab)



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## Example of results - Students

- Why would you choose to drink alcohol?

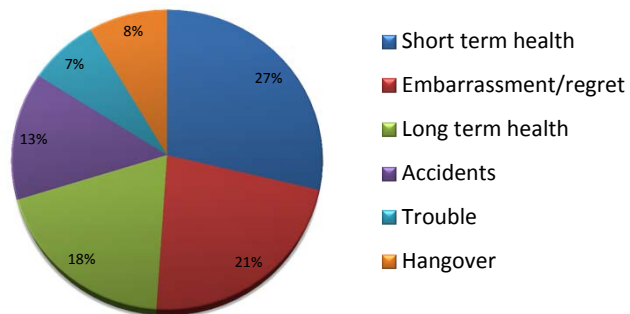


N = 69; Mean age 13.5yrs (SD = 0.76); 32% male

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## Example of results - Students

- Why wouldn't you drink alcohol?

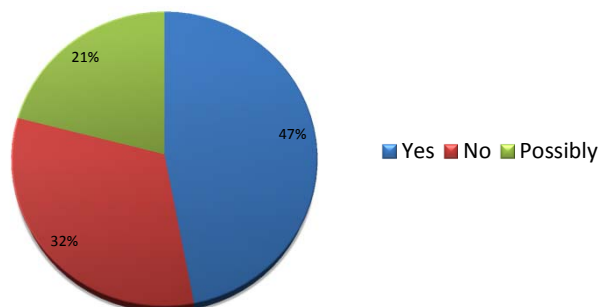


N = 69; Mean age 13.5yrs (SD = 0.76); 32% male

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## Example of results - Students

- Do you think type of personality has anything to do with reasons people choose to drink?

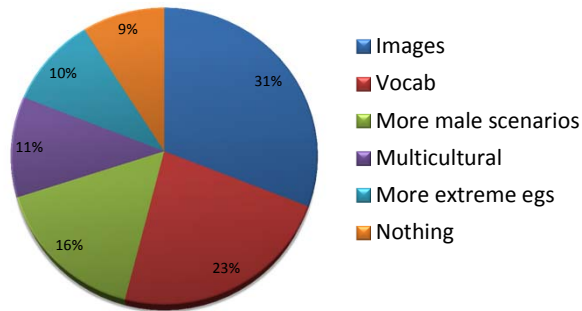


N = 69; Mean age 13.5yrs (SD = 0.76); 32% male

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## Example of results - Students

- Is there anything you would change to make it more meaningful?



N = 69; Mean age 13.5yrs (SD = 0.76); 32% male

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## Changes to the wording

“get my buzz on”  
“knapsack”  
“lager”  
“can of soda”



“get hammered”  
“backpack”  
“beer”  
“can of coke”



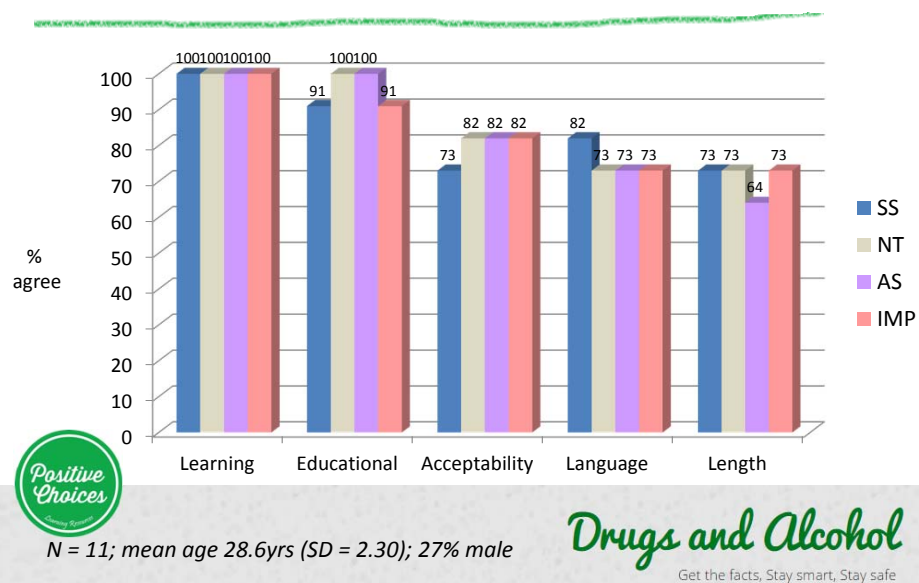
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## Changes to the manual e.g. appearance



## Results – Teachers & health professionals



## Comments from teachers & health professionals

- Learning
  - *'Yes, they would understand the concepts and remember them'*
  - *'Visuals need updating to support the written material'*
- Educational content
  - *'General educational content is appropriate – skilling them for scenarios and appropriate actions and behaviours'*
  - *'Is not too confrontational... sits well for the age level'.*
- Acceptability
  - *'Names and pictures need to be changed/updated... some look too old'*
  - *'Perhaps add more scenarios that include technology to make it relevant to adolescents (eg. iPhones, internet)'*



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## Comments from teachers & health professionals

- Language
  - *'Needs to be more relevant to their age and to Australian adolescents'*
  - *'The language needs to be updated.. possibly more acronyms would help'*
- Length
  - *'The manuals have a lot of information to cover which could be difficult to get through in an already busy curriculum'*
  - *'The program is possibly not long enough – maybe a booster session later?'*
  - *'Could be slightly longer, but for the demographic sometimes the shorter the better'*

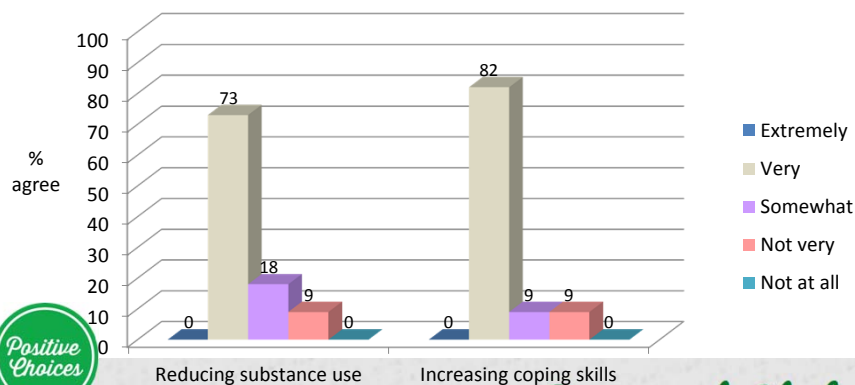


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## Results – Teachers & health professionals

- How effective?



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## In summary...

- Teachers & health professionals felt that *Preventure* would be effective in reducing substance use and increasing coping skills, all agreed the educational content was appropriate and students would be able to understand and remember the concepts presented. They felt, however, that it needed to be updated and made more relevant to the Australian adolescent audience.
- So the manuals were updated, in line with the feedback from the students in the focus groups (e.g. appearance, language, scenarios, more multicultural, use of technology in examples)



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## NT case examples



<b>Situation</b>	Got bad marks in an exam; lost my phone; had a fight with a friend; my grandfather passed away; couldn't find any of my friends at school; I was bullied at school
<b>Physical sensations</b>	No energy, tired, agitated, headache, sick, heavy, teary
<b>Thoughts</b>	<i>I will stuff it up; I cant do this; I will ruin it for the team; He doesn't like me anymore; I'm not good enough to be around; I will never make friends; I should just give up; Why should I bother anyway; I am useless</i>
<b>Action</b>	Ripped up my study notes; went to my room to sleep; told myself to stop feeling sorry and to just deal with it; went and talked to my mum; ate chocolate; listened to music

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## AS case examples

<b>Situation</b>	Preparing for an exam; presenting a speech; before a running race in athletics; before a rugby match; meeting new people; school dance; party
<b>Physical sensations</b>	Head spins, butterflies, sick feeling in stomach, sweaty palms, shaky, jittery, nervous, can't focus, beating heart, red face, headache
<b>Thoughts</b>	<i>What will happen if I fail?; What's wrong with my body?; Why do I feel so nervous?; Everybody is looking at me; I won't fit in; I'm not going to get through this at all; I'm going to totally embarrass myself</i>
<b>Action</b>	Stressed too much and stopped studying; stumbled my words and sweated so much I left the party; stayed at home; talked to my friends to get my mind off it; listened to music



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## IMP case examples

<b>Situation</b>	Disagreement with mum; disagreement with brother; teacher embarrassed me; angry at my parents; my friends were laughing and talking about me
<b>Physical sensations</b>	Adrenaline, frustration, angry, crying, shaky, tense, flushed
<b>Thoughts</b>	<i>I'm so angry and I don't know what to do with life; leave me alone; you're wrong; I'm so annoyed; I'm so fed up; I hate you; what have I done to you?; I'll get you</i>
<b>Action</b>	Stormed off; punched my brother; went to the shops without telling parents; slammed the doors; punched walls; walked away to cool off; stopped and thought it over



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## SS case examples

<b>Situation</b>	Knock and run; prank at school; trying to study on the weekend but friends wanted me to party; going to a party and not telling parents; water fight at home; a mate dares you to do something; skipped class
<b>Physical sensations</b>	Shaking, heart racing, excitement, feeling hyper, sweating, dizzy, happy, light headed, butterflies, energetic, pumped, fearless, alive, rush
<b>Thoughts</b>	<i>This is so much fun; I'm worried but more excited; I'm going to burst soon; How much trouble can I cause without getting caught?; I cant believe I'm doing this; I wish this would never end</i>
<b>Action</b>	Ran and knocked on doors and hid; snuck out; partied with friends; didn't get caught; got caught and got suspended



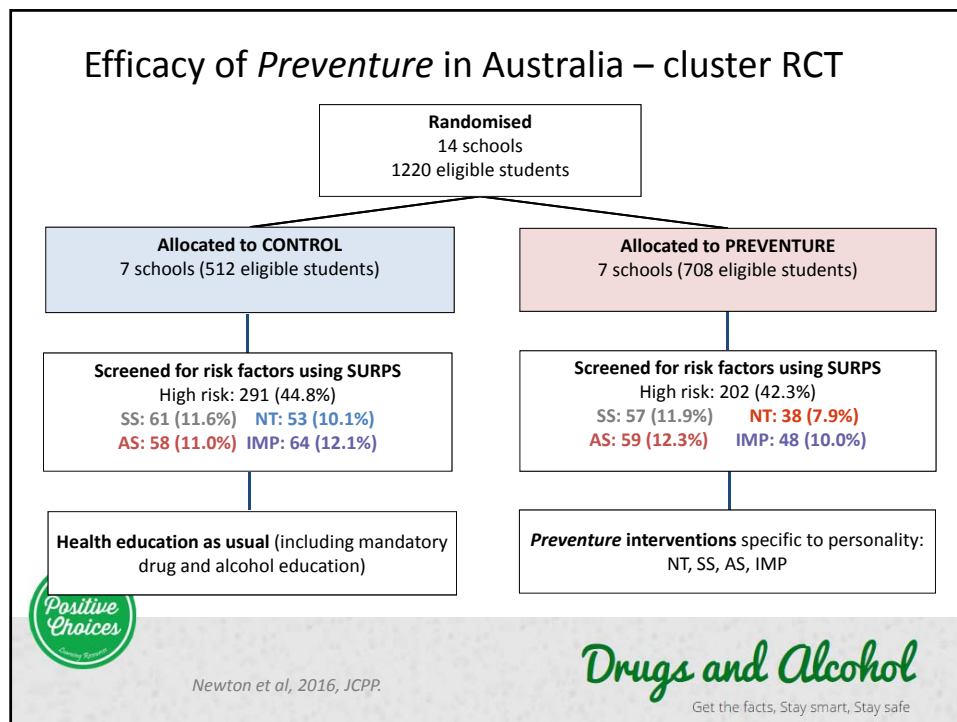
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## Methods

### Intention to treat sample:

- **438 high-risk** adolescents from 14 schools completed baseline
- Mean age: 13.4 years (SD=0.47)

### Assessments:

- **Five times** over **three** years; Baseline (Yr 8), post-intervention (Yr 8), and 12- (Yr 9), 24- (Yr 10) and 36-mths (Yr 11) post-baseline.

### Measures:

- **Alcohol use** (full serve), **binge drinking** (5+ standard drinks), **alcohol-related harms** (RAPI), symptoms of **depression** (BSI subscale), **anxiety** (BSI subscale), **psychological distress** (K6), **conduct** problems (SDQ subscale) and **hyperactivity** (SDQ subscale).



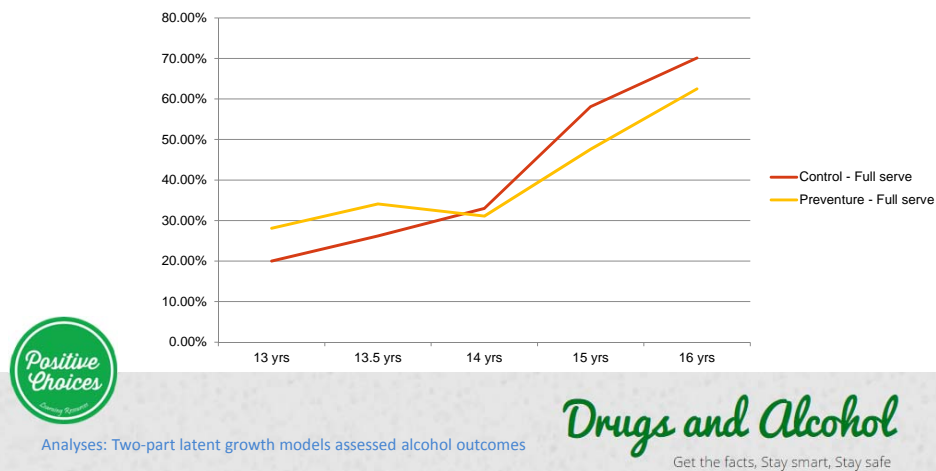
Newton et al, 2016, JCPP.

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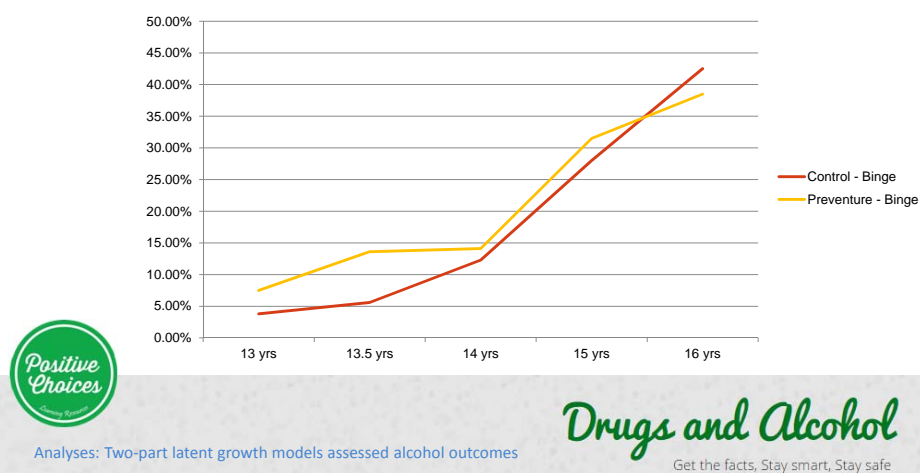
## Results – Alcohol consumption

Relative to high-risk **control** students, high-risk **Preventure** students had **significantly lower growth** in **alcohol use** ( $b = -0.225 [0.061]$ ,  $p < 0.01$ ) over time.



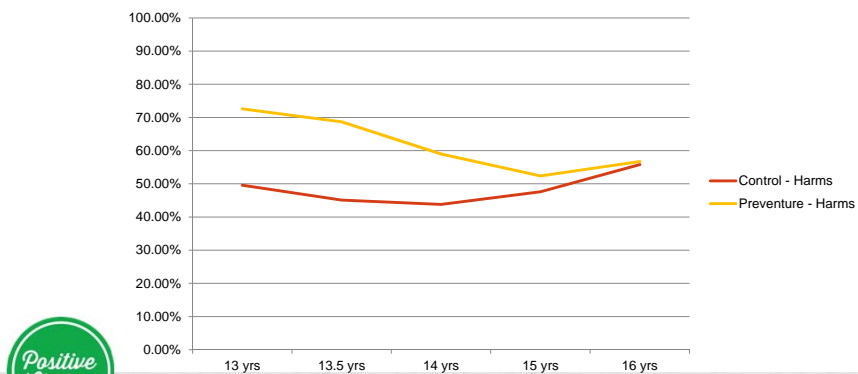
## Results – Binge drinking (5+ drinks)

Relative to high-risk **control** students, high-risk **Preventure** students displayed **significantly lower growth** in **binge drinking** ( $b = -0.305 [0.096]$ ,  $p < 0.01$ ) over time.



## Results – Alcohol related harms

Relative to high-risk **control** students, high-risk **Preventure** were significantly **significantly less** to report **alcohol-related harms** over time ( $b = -0.255$  [0.096],  $p < 0.05$ ).



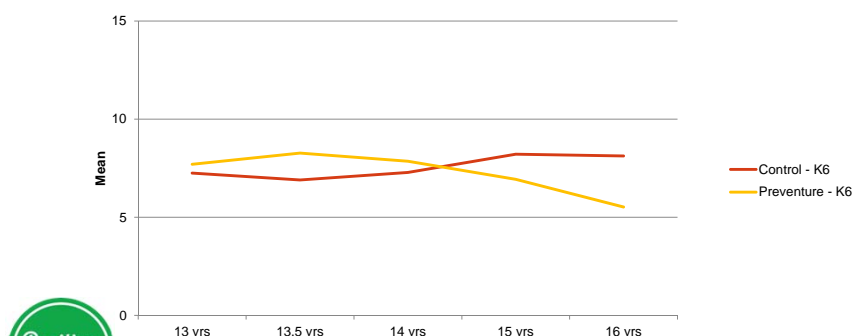
Analyses: Two-part latent growth models assessed alcohol outcomes

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## Results – Psychological Distress

Relative to high-risk **control** students, high-risk **Preventure** students reported **significantly less psychological distress** over time ( $b = -0.831$  [0.224],  $p < 0.001$ ).



Analyses: Three-level mixed models in Stata

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## What did the students think?

- What **did** you like about the sessions?
  - 'It **opens up a part of our personality** we were unaware of' (Female, IMP)
  - 'It **helped us reflect** on who we are and what we aim for' (Male, SS)
  - 'We **got to understand** what anxiety is and how to get rid of the feelings' (Female, AS)
  - 'It helped me **identify and challenge** my bad thoughts and feelings' (Male, AS)
- What **didn't** you like about the sessions?
  - 'It can be **uncomfortable** talking about personal stories' (Male, AS)
  - '**Not enough time**; maybe needed more sessions – a bit rushed' (Male, SS)
  - 'It takes up lesson time – **perhaps lunch?**' (Female, IMP)



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## Conclusions

- First study in Australia to support the long-term effectiveness of *Preventure* in:
  - Slowing the growth of alcohol use & binge drinking
  - Reducing alcohol-related harms
  - Reducing internalising & externalising problems
- Results consistent with trials in UK & Canada  
(Castellanos et al., 2006; Conrod et al., 2006 ; 2008, 2010; 2011, 2013)
- Need to focus on translation - make *Preventure* available to schools



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## Acknowledgements

### Research Team

- Prof Maree Teesson
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Thank-you

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To find out more, visit:

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# Any questions or comments?



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In case you missed it...



What can parents do to prevent teenage substance use?

Dr Louise Thornton & Ms Dana Leidl

[Register here](#) for 25 May, 11:00 AM



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