Anxiety, mood disorders and first alcohol use in the general population: A developmental perspective

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Acknowledgements

PhD Supervisors

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✓ A/Prof Tim Slade
✓ Prof Maree Teesson

Cath Chapman, NDARC

Brad Shaw, NDARC
Overview

• How many young people have anxiety, mood or substance use disorders?

• Has this changed?

• What can we do about it? Can we prevent these problems?
The Big Three

• Anxiety disorders
• Mood disorders
• Alcohol disorders
How many young people?

In any year 1 in 4 young people will meet criteria for a mental or substance use disorder.

> 670,000 young Australians

Source: Australian National Survey of Mental Health and Wellbeing (NSMHWB)
How many disorders?

One in five young people with a mental or substance use disorder have more than one

- Comorbidity is more common in females

Source: Australian National Survey of Mental Health and Wellbeing (NSMHWB)
How do rates compare?

Rates of mental and substance use disorders are higher among young people.

Source: Australian National Survey of Mental Health and Wellbeing (NSMHWB)
When do disorders begin?

“When was the first time you had symptoms like…”

- Mental and substance use disorders begin in (the critical period of) adolescence and early adulthood
- Having any disorder increases your risk of having any other disorder

Do young people seek help?

- Overall, less than 1 in 4 young people with a mental or substance use disorder seek help
- Rates of help-seeking are lower among young people than among the rest of the population

Source: Reavley et al. (2010)
How long do people wait to seek help?

- The median delay among those with AUDs who eventually make treatment contact in Australia is **18 years**

Source: Chapman et al. (2015)
There is some good news!

More young people are choosing not to drink

12 month abstinence for Australians 12-17 years

But.....

• Rates of very high risk binge drinking (11+ drinks) among 12-17 year olds have not shifted from 2010 to 2013

• Harms associated with binge drinking are substantial
So far……

- How many young people have anxiety, mood or substance use disorders?
- Has this changed?
- What can we do about it? Can we prevent these problems?
So far……

• How many young people have anxiety, mood or substance use disorders?

• Has this changed?

• What can we do about it? Can we prevent these problems?
What can we do about it? Can we prevent these problems?

• Step 1: Better understanding of comorbidity in young people
Developmental Perspective

- Focusing on early adolescence as this is the time when alcohol use amongst adolescents typically begins

- Critical period in human development
Timing and Onset of Alcohol Initiation, Anxiety and Mood Disorders
Developmental Transition Points

First use  Regular use  Problematic use  Addiction  Recovery
Developmental Transition Points

- First use
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder
- Regular use
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder
- Problematic use
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder
- Addiction
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder
- Recovery
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder

The Difference is Research
Developmental Transition Points

- First use
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder

- Regular use
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder

- Problematic use
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder

- Addiction
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder

- Recovery
  - Alcohol Use
  - Anxiety Disorder
  - Mood Disorder
Are anxiety or mood disorders associated with first alcohol use?

If so, are they a risk or protective factor for earlier age of first alcohol use?
First Alcohol Use

Early age of first alcohol use

- Alcohol use disorders
- Poor social engagement
- School drop out
- Risky sexual behaviours

The Study

Measures

- Age of onset for anxiety & mood disorders
  World Mental Health CIDI to assess diagnosis of mood and anxiety disorders

- Alcohol onset question:
  “How old were you the very first time you ever drank an alcoholic beverage – including either beer, wine or spirits?”

Data

- 2007 Australian National Survey of Mental Health and Wellbeing
- N = 8841, 60% response rate

Analysis

- Discrete-time survival analysis
Early Onset Disorder

Disorder had to precede first alcohol use

An early onset disorders was one that first onset in the lower IQR for age for each disorder.
### Anxiety disorders and alcohol use

Lifetime prevalence of early onset **anxiety disorders**, in the Australian population & median age of first alcohol use

<table>
<thead>
<tr>
<th>Early onset disorder</th>
<th>N</th>
<th>Weighted Prevalence (%)</th>
<th>95 % CI</th>
<th>Median age first alcohol use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety disorder (onset &lt;12 years)</td>
<td>528</td>
<td>6.7</td>
<td>6.0 - 7.5</td>
<td>16</td>
</tr>
</tbody>
</table>
Mood disorders and alcohol use

Lifetime prevalence of early onset mood disorders, in the Australian population & median age of first alcohol use

<table>
<thead>
<tr>
<th>Early onset disorder</th>
<th>N</th>
<th>Weighted Prevalence (%)</th>
<th>95 % CI</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Mood disorder (onset &lt;21 years)</td>
<td>242</td>
<td>3.01</td>
<td>2.5 - 3.6</td>
<td>16</td>
</tr>
</tbody>
</table>
Model 1

Early onset anxiety disorder VS No anxiety disorder
Survival Analysis

Model 2

Early onset mood disorder vs No mood disorder
Anxiety and First Alcohol Use

People with an early onset anxiety disorder were 27% more likely to have had a full drink:

- **OR 1.27**
- **(p < 0.005)**
- **CI (1.08 – 1.51)**

*analysis controlled for sex, age cohort, family history of alcohol disorder and education*
Mood and First Alcohol Use

People with an early onset mood disorder were 17% more likely to have first alcohol use.

**OR 1.17 (p =0.06)**

**CI (0.99 – 1.37)**

*analysis controlled for sex, age cohort, family history of alcohol disorder and education*
Are Early Onset Anxiety Disorders Predictors of First Alcohol Use?

Yes!

Predictors of the onset of first alcohol use – Anxiety disorders

<table>
<thead>
<tr>
<th>Early onset disorder</th>
<th>Ever used alcohol</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Anxiety disorder (onset &lt;12 years)</td>
<td>528</td>
</tr>
</tbody>
</table>

All models control for sex, age cohort, family history of alcoholism and education.
†The reference group contains individuals without a lifetime diagnosis of the mental disorder being examined.
Are Early Onset Mood Disorders Predictors of First Alcohol Use?

No, but....

Predictors of the onset of first alcohol use - Mood Disorders

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<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Mood disorder (onset &lt;21 years)</td>
<td>243</td>
</tr>
<tr>
<td>Depression (onset &lt;21 years)</td>
<td>225</td>
</tr>
<tr>
<td>Bipolar (onset &lt;17 years)</td>
<td>18</td>
</tr>
<tr>
<td>Dysthymia (onset &lt;16 years)</td>
<td>56</td>
</tr>
</tbody>
</table>

All models control for sex, age cohort, family history of alcoholism and education.
†The reference group contains individuals without a lifetime diagnosis of the mental disorder being examined.
What about age?
What about age?

Kaplan-Meier failure estimates - first drink by anxiety

- No Anxiety Disorder
- Early Onset Anxiety Disorder
What about age?

(OR: 0.80, 95% CI 0.59 – 1.07, \( p = .13 \))
What about age?

(OR: 0.80, 95% CI 0.59 – 1.07, p = .13)

(OR: 0.70, 95% CI 0.47 – 1.27, p = .31)
What about age?

Not sig.

50% more likely

(OR: 1.50, 95% CI 1.20 – 1.88, p <0.001)
What about age?

- Not sig.
- 50% more likely
  - (OR: 1.50, 95% CI 1.20 – 1.88, \(p < 0.001\))
- 32% more likely
  - (OR: 1.32, 95% CI 1.09 – 1.59, \(p = 0.006\))
Early onset anxiety and mood disorder were associated with an increased odds of first alcohol use in any given year.

This effect was only significant for anxiety and mood disorders for transitions to first alcohol use that occurred after 13 years old.

Cross-sectional data: can’t infer causality, reliability of estimates (retrospective recall).
What did this study show?

- Patterns of alcohol use were related to mental health in the general population.

- It’s important to consider age when looking at the relationship between mental health & first use of alcohol.
Can we prevent and intervene?

- Prevention and early intervention are critical

- Deliver accurate and evidence-based information so that young people can make informed and positive choices about substance use

- Make use of technology
The Climate Schools Combined (CSC) Study
The CSC Study

To develop and evaluate the first combined approach to ‘universal’ substance use and mental health prevention in adolescence, delivered through school.

- First trial to test an integrated model for the prevention of the two problems.
Design – Cluster RCT

Approached to participate: 528 schools

Agreed to participate: 71 schools
Total students: 6 411

Climate Schools (CSC)
16 schools
Total students: 1 502

Climate Schools (CS-SU)
18 schools
Total students: 1 753

Climate Schools (CS-MH)
18 schools
Total students: 1 599

Control condition (CO)
19 schools
Total students: 1 557

Climate Schools
Combined program

Climate Schools-Substance Use course

Climate Schools-Mental Health course

Drug education as usual during school hours
## Timeline

<table>
<thead>
<tr>
<th>Time</th>
<th>Survey 1</th>
<th>Survey 2</th>
<th>Survey 3</th>
<th>Survey 4</th>
<th>Survey 5</th>
<th>Survey 6</th>
<th>Survey 7</th>
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<tbody>
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<td>Term 3 2014</td>
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<tr>
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Baseline Characteristics of Sample

45% & 55% with an average age of 13 years old.

 Origins of the Students:
- 11% Non English Speaking Countries
- 7% English Speaking Countries
- 82% Australia

When asked the question: Have you ever...
- Had a sip of alcohol? 62% said yes.
- Had a full standard alcoholic drink? 9% said yes.
- Had 5 or more standard alcoholic drinks on one occasion? 2% said yes.
- Tried cannabis? 1% said yes.
Thank you

**The CSC Study Team**
- Dr Nicola Newton
- A/Prof Tim Slade
- Dr Cath Chapman
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- Prof Steve Allsop
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- Louise Mewton
- Brad Shaw
- Nina Te Pas
- Zoe Tonks
- Nina Pocuca

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- Prof Maree Teesson

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