



Alcohol, Aggression and Gambling among regular ecstasy users in Australia



Outline

Background

- What did we look at and why?
- How did we do it?

Results

- Alcohol
- Aggression
- Gambling
- Interactions between all three

Conclusions

- Summary
- Implications

- What did we look at and why?
- How did we do it?

What did we look at and why?

❖ ALCOHOL:

- High reported rates of alcohol consumption among REU in the EDRS.
- Implications of alcohol consumption alongside ecstasy (and other drug) use.
- Well established link between alcohol and antisocial behaviours.

❖ AGGRESSION:

- Serotonin thought to mediate aggressiveness - low serotonin linked with higher aggressive bias (Young & Leyton, 2002).
- Literature not consistent regarding the relationship between ecstasy use and aggression over the long term.

- What did we look at and why?
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What did we look at and why?

❖ GAMBLING:

- Evidence that pathological gambling and illicit drug use likely to **CO-OCCUR** (Johansson et al., 2009; Petry, 2007).
- Recent focus in gambling literature on similarities (in aetiology, course, treatment and conceptualisation) between pathological gambling and substance use disorders (SUD) (Petry, 2007; Potenza, 2008).
- Presence of SUD and pathological gambling associated with poorer outcomes - need to identify people at risk (Petry, 2007).

- What did we look at and why?
- How did we do it?

How did we **measure** these variables?



❖ ALCOHOL:

- The Alcohol Quantity, Frequency and Variability Questionnaire (AQFV)
 - Typical Drinking, Regular Changes (e.g. weekends) and Occasional Changes (e.g. festivals, parties)

❖ AGGRESSION:

- The Buss-Perry Aggression Questionnaire-Short Form (Bryant & Smith, 2001)
 - Physical Aggression, Verbal Aggression, Hostility and Anger

❖ GAMBLING:

- Self-Report Last 30 days
- Problem Gambling Severity Index (PGSI)

- Alcohol
- Aggression
- Gambling
- Interactions between all three

❖ Alcohol among Australian regular ecstasy users:

	male	female	total
% have ever consumed alcohol	99.4	99.6	99.5
% have consumed alcohol in the last 6 months	97.1	98.2	97.5
Average number drinks per session ***	8	5.5	7

*** $p < 0.001$

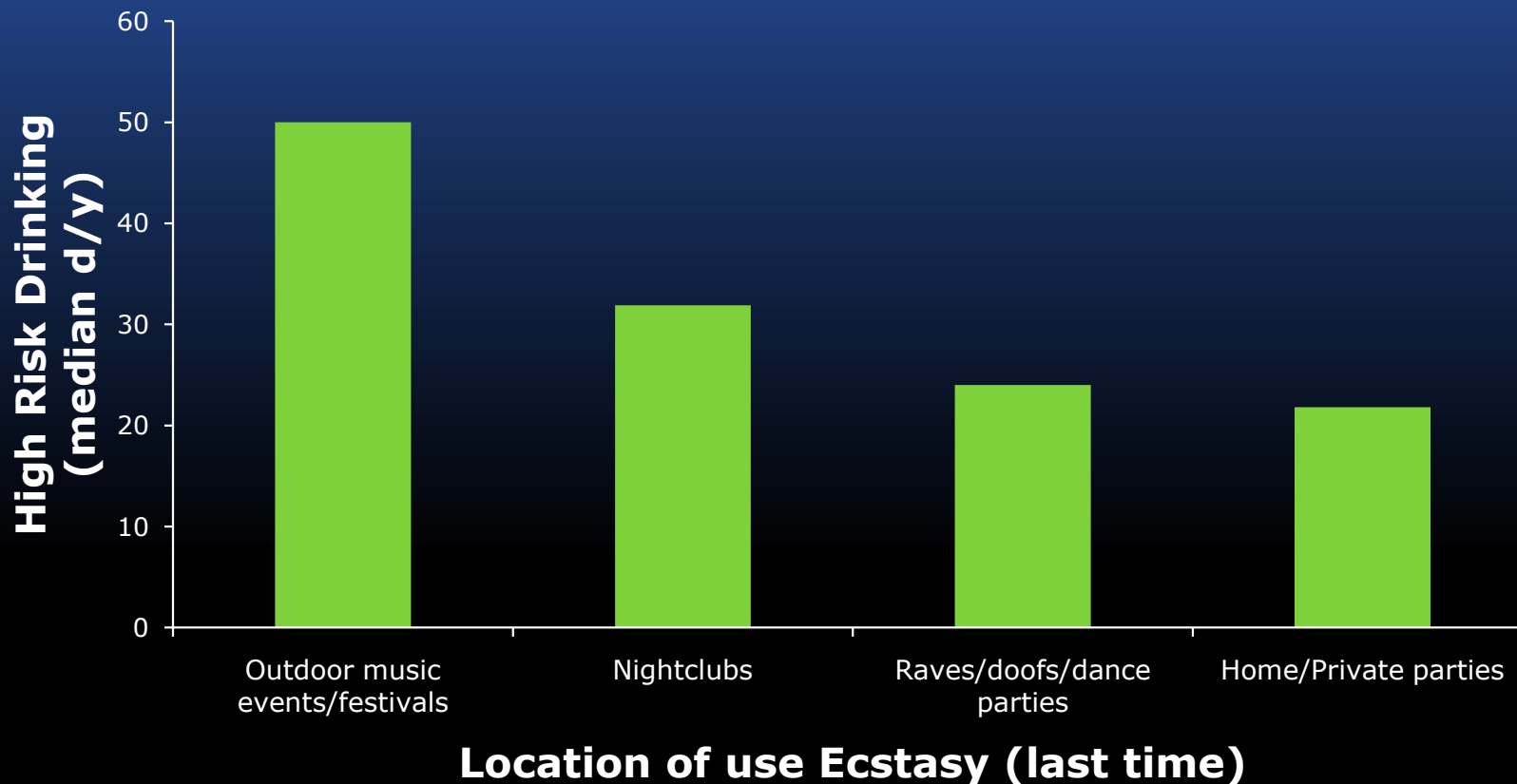
- Definition of (short term) risk[^]:

	Males	Females
High Risk	11 or more	7 or more
Risky	7-10	5-6
Low Risk	up to 6	up to 4

[^] no. drinks in one session; taken from NDSHS 2007 and NH&MRC Alcohol Guidelines 2001

- Alcohol
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- Interactions between all three

❖ Alcohol among Australian regular ecstasy users:



- Significant relationship between location of use and high risk drinking ($\chi^2=9.99, p<0.05$)

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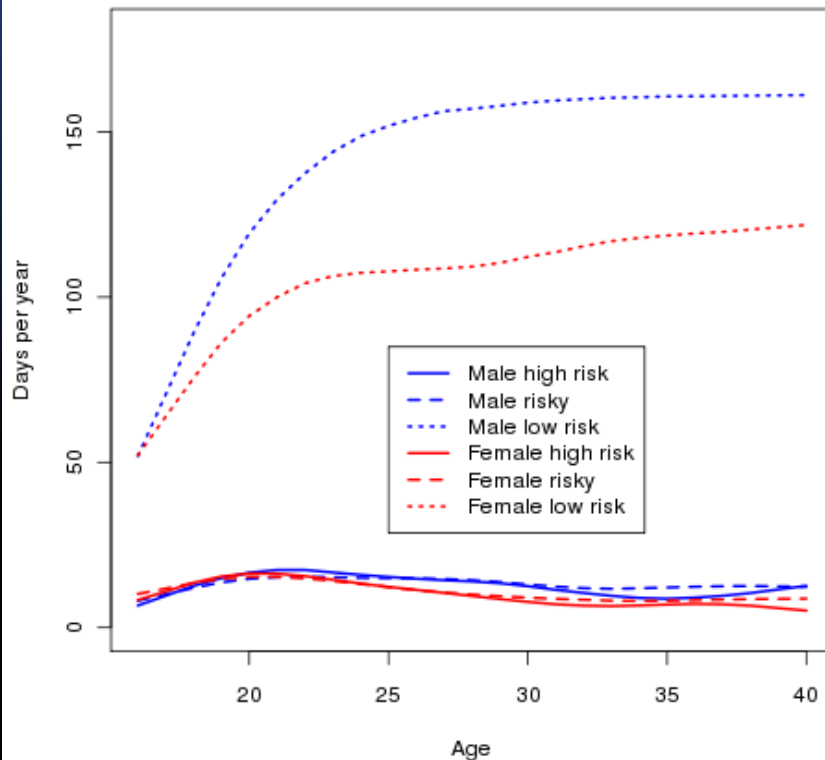
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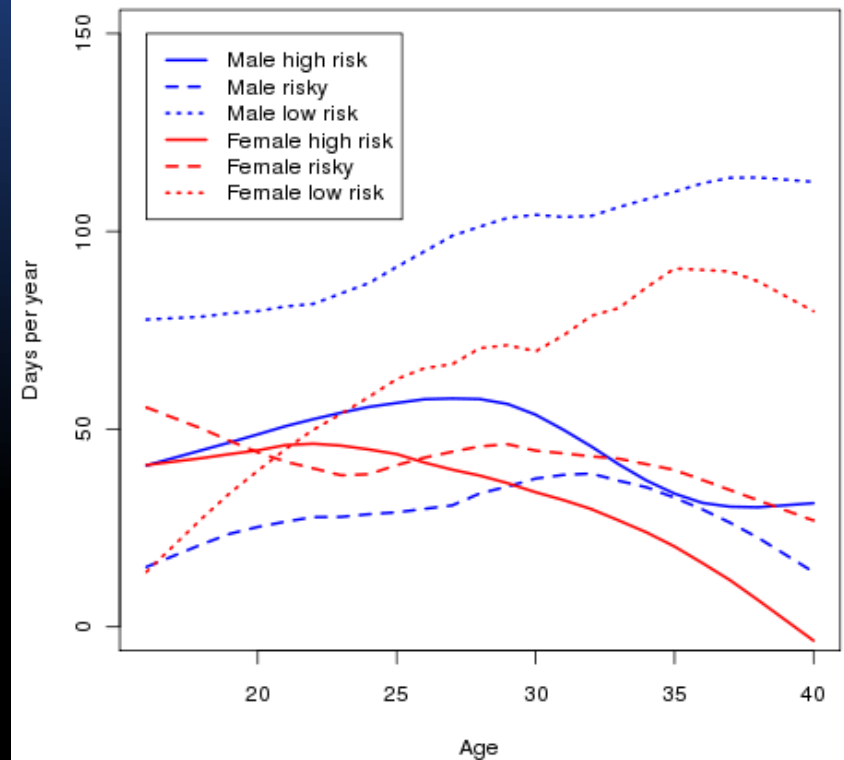
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❖ Alcohol among Australian regular ecstasy users:

Risky drinking by age and sex (NDSHS 2007)



Risky drinking by age and sex (EDRS 2009)

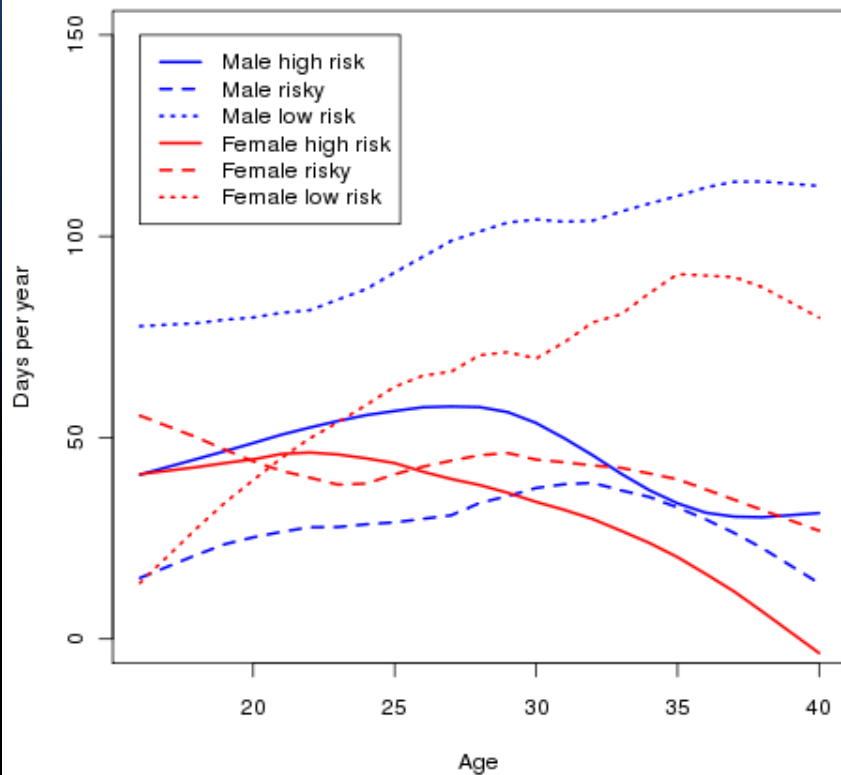


Analyses done using R:/ Statistical Language (R Development Core Team (2008))

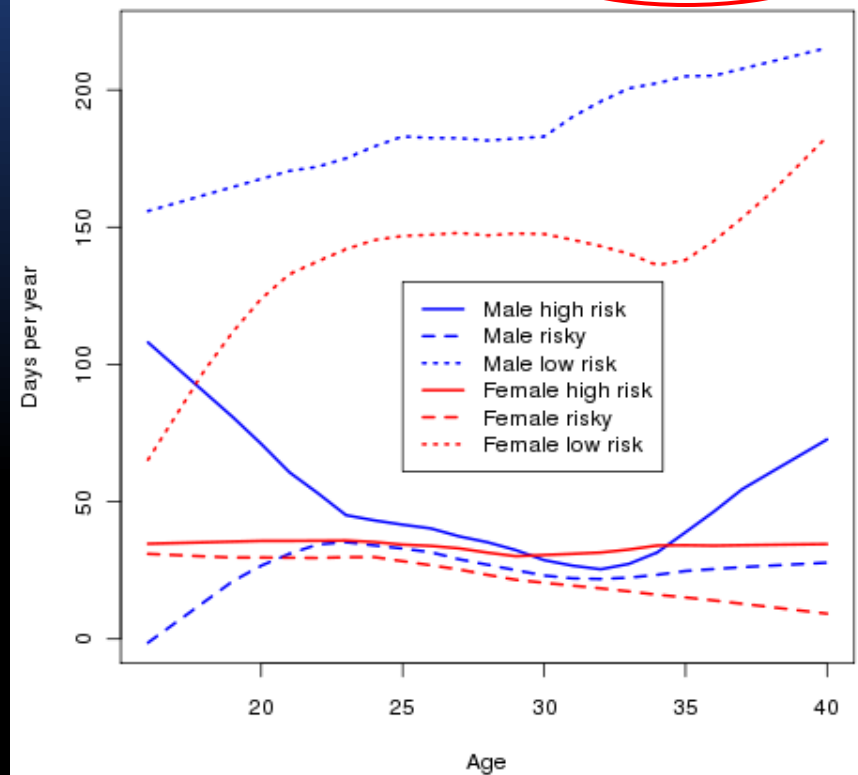
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Risky drinking by age and sex (EDRS 2009)



Risky drinking by age and sex (NDSHS 2007 E users)



Analyses done using R:/ Statistical Language (R Development Core Team (2008))

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(ii) Buss-Perry aggression Questionnaire- Short Form

A number of statements which people have used to describe themselves are given below. Use the 6 point scale to indicate how **uncharacteristic** or **characteristic** each of the following statements is in **describing you**. Remember, there are no right or wrong answers.

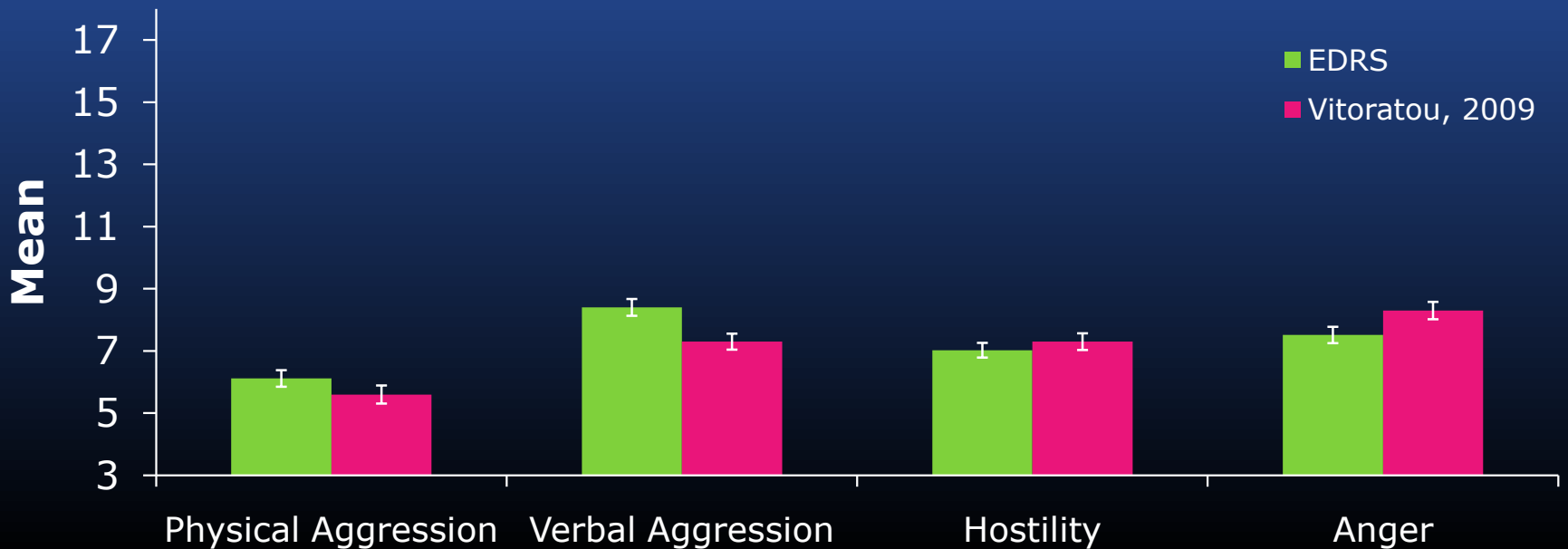
- I can't help getting into arguments when people disagree with me.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- I wonder why sometimes I feel bitter about things.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- I have threatened people I know.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- I flare up quickly but get over it quickly.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- Given enough provocation, I may hit another person.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- At times I feel I have gotten a raw deal out of life.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- I have trouble controlling my temper.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- I often find myself disagreeing with people.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- Other people always seem to get the breaks.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- There are people who pushed me so far that we came to blows.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- My friends say that I'm somewhat argumentative.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6
- Sometimes I fly off the handle for no good reason.**
Extremely uncharacteristic of me 1
Somewhat uncharacteristic of me 2
Uncharacteristic of me 3
Characteristic of me 4
Somewhat characteristic of me 5
Extremely characteristic of me 6

- I can't help getting into arguments when people disagree with me.**
Extremely uncharacteristic of me 1
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Extremely characteristic of me 6

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❖ Aggression among Australian regular ecstasy users:



	% endorsed any	% endorsed all
Physical Aggression	32	7
Verbal Aggression	53	15
Hostility	41	4
Anger	52	8

Source: REU interviews, EDRS 2009; Vitoratou et al., 2009

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❖ Aggression and drug use

- Very weak associations between measures of drug use and aggression including:
 - number drug types ever used with verbal aggression ($\rho=0.07$, $p<0.05$) and hostility ($\rho=0.08$, $p<0.05$).
 - days used ecstasy last 6 months with physical aggression ($\rho=0.13$, $p<0.01$).
- No association with number days used methamphetamines.
- Very weak correlation between verbal aggression and number of years used Ecstasy for males ($\rho=0.11$, $p<0.05$) but not females.

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❖ Aggression and bingeing

- **Bingeing** = using stimulants or related drugs for more than 48 hours continuously without sleep
- Male REU who had recently binged scored higher than those who did not on:
 - physical aggression ($U=20,706.5, p<0.01$)
 - verbal aggression ($U=22,289, p<0.05$), and
 - hostility ($U=22,228.5, p<0.05$)

❖ Aggression and gender

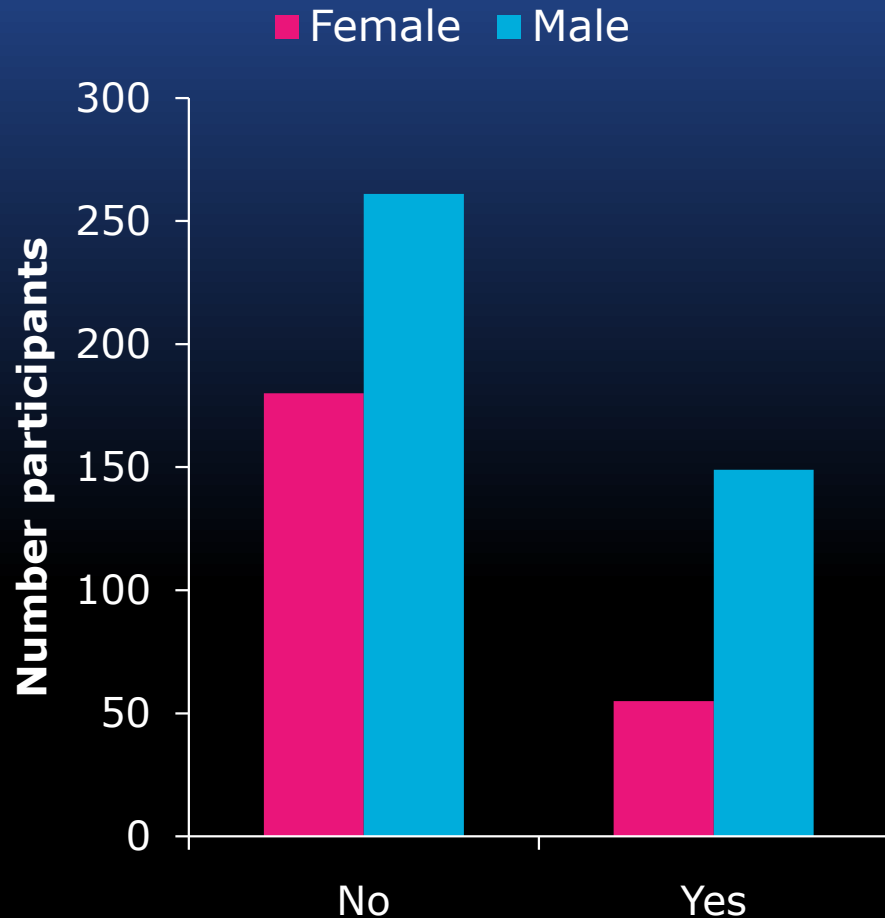
- Men scored significantly higher on the **physical and verbal aggression** subscales than did women ($U=47211, p<0.001$ and $U=57768, p<0.05$ respectively); however, not for hostility and anger.



Male REU more likely to express the motor components of aggression than female REU?

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❖ Gambling among Australian regular ecstasy users:



Source: REU interviews, EDRS 2009

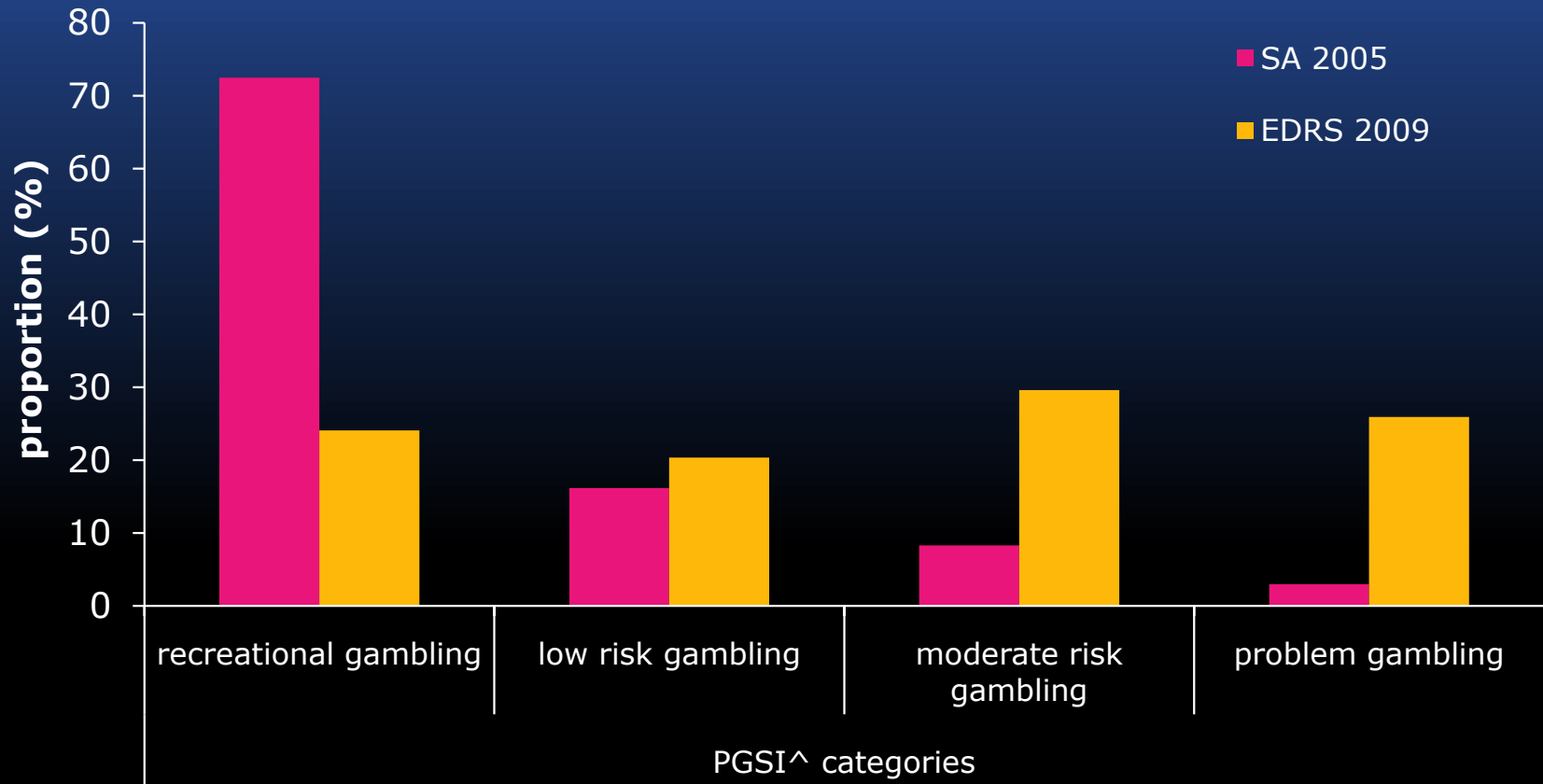
Of those who answered (N=645):

- 1/3 had gambled last 30 days
- More men than women ($X^2=11.6$, $p<0.001$)
- 52% under influence alcohol
- 20% under influence drugs mainly[^]:
 - cannabis (50%)
 - ecstasy (30%)
 - speed (20%)
- 75% spent \$50 or less[^]

[^] of those who commented

- Alcohol
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❖ Gambling among Australian regular ecstasy users:



Source: REU interviews, EDRS 2009;
Gambling Prevalence in South Australia, 2005;
Queensland Household Gambling Survey 2006-07
^Problem Gambling Severity Index (PGSI)

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❖ Alcohol and aggression:

- Significant but very weak correlation between the **number of days a year of high risk drinking** and:
 - physical aggression ($\rho=0.14, p<0.001$)
 - verbal aggression ($\rho=0.13, p<0.001$), and
 - anger ($\rho=0.14, p<0.001$)
- Significant but very weak correlation between the **average number of drinks consumed per session** and:
 - physical aggression ($\rho=0.18, p<0.001$)
 - verbal aggression ($\rho=0.12, p<0.01$)
 - hostility ($\rho=0.08, p<0.05$) and
 - anger ($\rho=0.10, p<0.01$)

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❖ Alcohol and gambling:

Gambled last 30 days	No	Yes
High Risk Drinking (median days/year)***	20	47
Average drinks/session*	6	7

* $p < 0.05$; *** $p < 0.001$

❖ Aggression and gambling:

Gambled last 30 days	No	Yes
Physical Aggression	5	5
Verbal Aggression	8	9
Hostility	6.5	6
Anger	7	8

No relationship between aggression and severity of problem gambling.

Summary

- REU appear to consume alcohol at risky levels more often and for longer than the general population.
- REU reported higher levels of **verbal aggression** than any other form.
 - physical aggression was the least commonly reported form.
- Drug use variables were not very strongly associated with aggression; however, **bingeing** in males appeared to be related to various forms of aggression.

Summary

- Approximately 1/3 of the sample had gambled in the last month.
 - the majority (75%) spent \$50 or less the last time they gambled.
- Of the total sample, 7% had gambled on 4 days or more in the last 30 days.
- There appears to be a weak relationship between high risk alcohol consumption and both aggression and gambling among REU.

Implications

- Need to address **risky drinking** among REU
 - drinking while taking Ecstasy and related drugs
 - continuing to drink at risky levels right up to 35-40 y.o.
 - education about what number of drinks constitutes 'risky' drinking
 - risky drinking and drug use in different locations/settings e.g. nightclub vs. home/private party
- Education surrounding other forms of **aggression** beyond physical i.e. Verbal aggression, anger and hostility.
- Further work looking at the relationship between **binge** drug use and **aggression**
- Further work to find 'risk' variables that might predict **problematic gambling**

Acknowledgements



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- Previous national coordinators: Emma Black, Jenny Stafford, Courtney Breen, Libby Topp and Rebecca McKetin

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