



Sonja Memedovic¹, Joanne Ross¹, Tim Slade¹, Shane Darke¹, Katherine Mills¹, Lucy Burns¹, Michael Lynskey², Maree Teesson¹

¹ National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia.

² Institute of Psychiatry, King's College London, London, United Kingdom

What is rumination?

- ❑ Rumination has traditionally been conceptualised as the tendency to repetitively and passively focus on the causes, meanings and consequences of one's depressed mood¹
- ❑ An extensive body of literature has shown that rumination plays an important role in the onset, severity and persistence of depression²

How might it be related to substance use?

- ❑ Rumination may be related to substance use because
 1. Rumination increases the risk for depressive symptoms which in turn are related to poorer substance use outcomes:
Rumination → Depression → Substance Use
 2. People high on rumination may use substances to temporarily avoid rumination:
Rumination → Substance Use → Relief from rumination

Is rumination always a bad thing?

- ❑ In more recent research, rumination has been conceptualised as comprising of two distinct subtypes³:
 1. **Brooding**
 - A tendency to passively or self-critically dwell on one's feelings
 - E.g. Having thoughts like "Why do I always react this way?" or "Why can't I handle things better?"
 - Brooding is thought to be the harmful aspect of rumination
 2. **Reflection**
 - An active examination of one's feelings with the intention of problem solving
 - E.g. Going someplace to think about your feelings or writing down what you are thinking and analysing it
 - Reflection is generally considered to be a benign type of rumination



Aims of the present study

- ❑ The present study is the first to examine the relationship between rumination subtypes and substance use in an adult clinical sample
- ❑ It was hypothesized that
 1. Brooding would be related to worse substance use outcomes
 2. Reflection would show no relationship to substance use

Method

Sample: The Australian Treatment Outcome Study (ATOS)

- ❑ A longitudinal study of heroin users, commenced in 2001
- ❑ N = 615
- ❑ Follow ups at 3-, 12-, 24- and 36 - months
- ❑ 11 year follow up currently in progress: basis of the present study
- ❑ 400 interviews completed = 65% follow-up rate
- ❑ 59 participants are now deceased
- ❑ 333 interviews with complete rumination data used in the analyses

Measures

- ❑ Past-month substance use
 - Opiate Treatment Index⁴ (OTI)
 - Substances of interest to the present analyses: heroin, opiates, cannabis, amphetamines, cocaine, benzodiazepines, hallucinogens, inhalants
- ❑ Past-month major depression
 - Composite International Diagnostic Interview⁵ (CIDI, v1.1)
- ❑ Rumination
 - Brooding and reflection subscales of the Ruminative Responses Scale⁶ (RRS)
 - Higher scores indicate greater tendency to ruminate

Analysis strategy

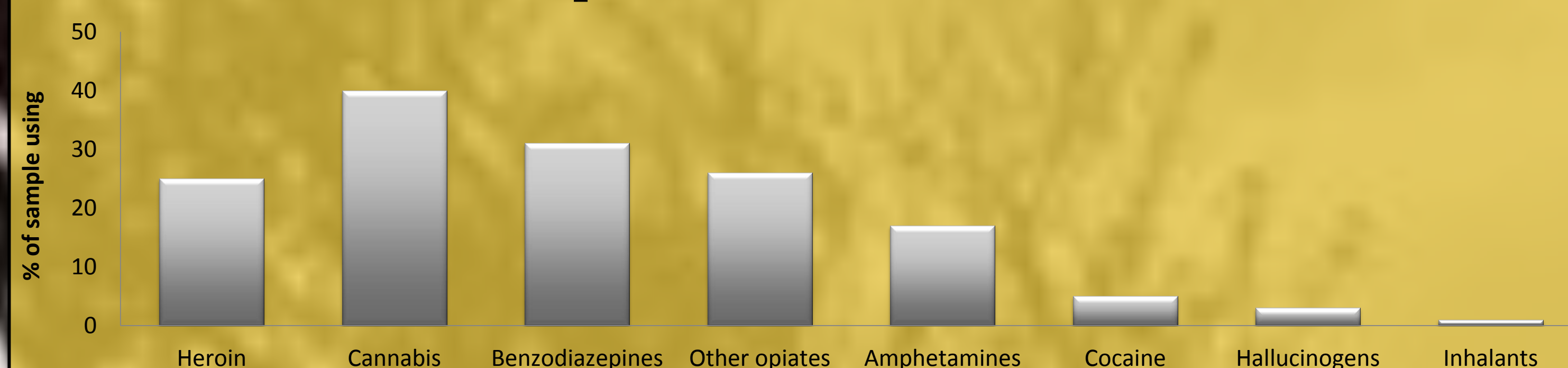
- ❑ Multivariable logistic regressions
 - Predictor variables – Brooding and Reflection (separate regression for each)
 - Outcome variable – Polydrug use (2+ drug classes used in the past month)
 - Control variables – Depression, sex, age and use of antidepressants

Results

Sample characteristics

- ❑ N = 333
- ❑ Male = 67%
- ❑ Mean age = 40 (SD = 7.7)
- ❑ Past-month depression = 19%

Substances used in the past month



Hypothesis 1: Brooding and polydrug use

Polydrug use			
	OR	Lower CI	Upper CI
Brooding	1.07*	1.01	1.14
Depression	2.7**	1.43	5.08
Sex	1.55	0.92	2.61
Age	1.01	0.98	1.04
Antidepressants	1.75*	1.01	3.04

* Sig. at p<.05
** Sig at p<0.01

Brooding was an independent predictor of polydrug use, over and above the effects of depression, sex, age and antidepressant use. For every 1 point increase in brooding scores, the odds of being a polydrug user increased by 7%.

Hypothesis 2: Reflection and polydrug use

Polydrug use			
	OR	Lower CI	Upper CI
Reflection	1.01	0.95	1.09
Depression	3.24**	1.75	6.00
Sex	1.50	0.90	2.52
Age	1.01	0.98	1.04
Antidepressants	2.01*	1.18	3.44

* Sig. at p<.05
** Sig at p<0.01

Reflection was not related to polydrug use when controlling for other variables.

Conclusions

- ❑ As expected, brooding was found to be an independent predictor of polydrug use whereas reflection showed no relationship to substance use in our sample
- ❑ By looking at the rumination subtypes rather than rumination overall, we were able to pinpoint which types of ruminative thoughts may be particularly maladaptive
- ❑ Given the cross-sectional design, we are unable to comment on the direction of causality. Prospective longitudinal studies are needed to investigate the relationship between rumination and substance use in more detail
- ❑ However, these findings are an important first step in identifying rumination, and in particular brooding, as a maladaptive construct that warrants attention in the treatment of substance use

References

- ¹ Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100, 569-582.
- ² Nolen-Hoeksema, S. et al. (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3, 400-424.
- ³ Treynor, W. et al. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, 27, 247-259.
- ⁴ Darke, S. et al. (1992). Development and validation of a multi-dimensional instrument for assessing outcome of treatment among opioid users: The Opiate Treatment Index. *British Journal of Addiction*, 87, 593-602.
- ⁵ World Health Organisation (1993). *Composite International Diagnostic Interview (version 1.1)*. Vienna: World Health Organisation.
- ⁶ Nolen-Hoeksema, S. & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: The 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology*, 61, 115-121.