

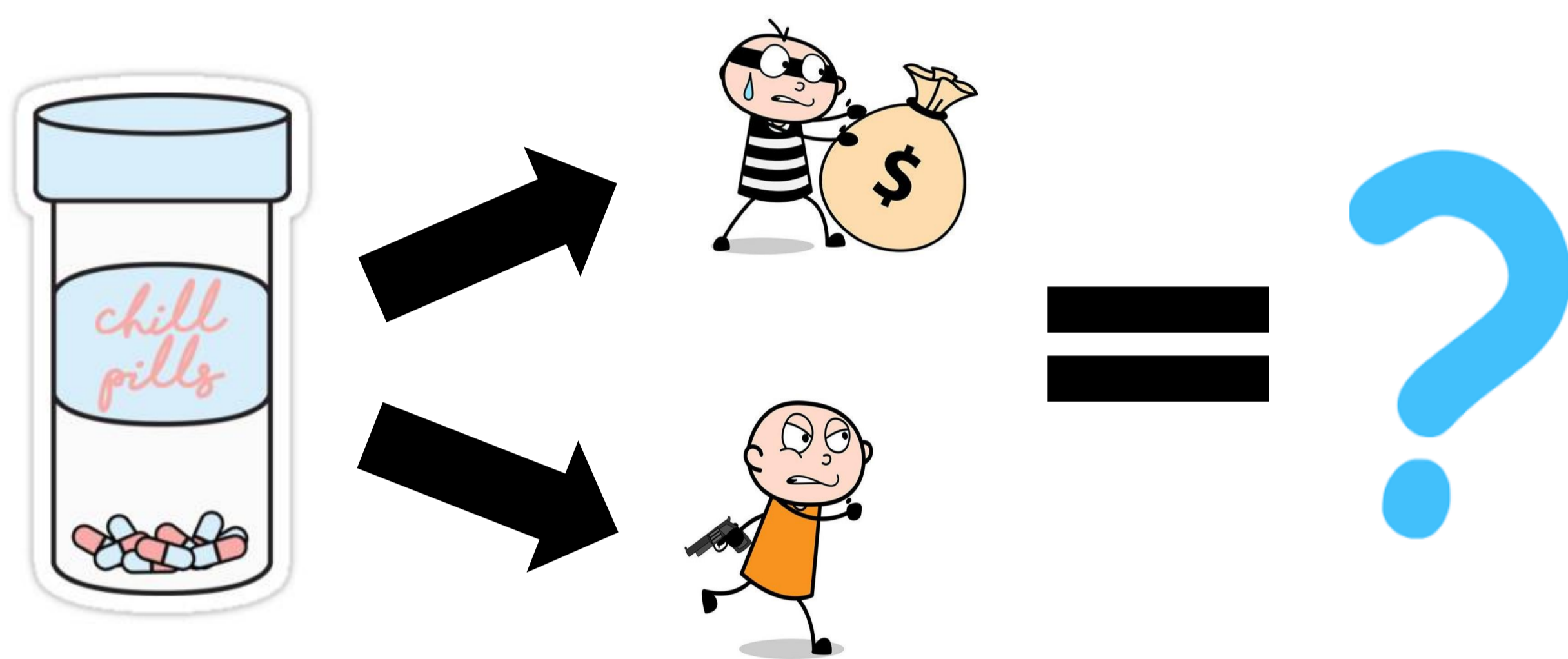
Background & Aims

The relationship between drug use and crime has been well-established in the literature among groups of illicit recreational substances.

There is a paucity of literature investigating the role prescription pharmaceutical drugs like benzodiazepines have on offending behaviour.

A small body of research suggests alprazolam is associated with criminality soon after use, due to the possible paradoxical effects of the drug (e.g., increased aggression in humans).

The study aimed to compare benzodiazepine use, specifically alprazolam in the 12-24 hours prior to a crime event (hazard period) with general benzodiazepine use (control period), by way of a case-crossover design.



Hypothesis 1.

Recent benzodiazepine use will be associated with the commission of a crime (i.e., greater odds of use in the hazard period than the control period), whereby alprazolam will be the most strongly associated.

Hypothesis 2.

Recent other drug use will be associated with the commission of a crime in the hazard period over the control period.

Hypothesis 3.

A greater proportion of participants will be involved in the commission of a violent crime under the influence of alprazolam over acquisitive types of crime.



Results

Incidence Rate Ratios were calculated using multilevel mixed-effects negative binomial regression models using count data in STATA (the menbreg command in v15).

Table 1.

Crude and Multivariate Incidence Rate Ratios for Alprazolam, Diazepam, and Temazepam

	Alprazolam			Diazepam			Temazepam		
	IRR	95% CI	p	IRR	95% CI	p	IRR	95% CI	p
Crude	1.42	0.91-2.21	0.120	1.04	0.70-1.56	0.848	1.04	0.13-8.27	0.971
Model 1	1.41	0.91-1.21	0.127	1.05	0.70-1.58	0.807	0.79	0.07-8.67	0.844
Model 2	1.54	0.96-2.46	0.074	1.10	0.72-1.69	0.649	0.59	0.04-8.35	0.697
Model 3	1.56	0.97-2.49	0.065	1.07	0.70-1.66	0.730	0.64	0.05-8.71	0.736
Model 4	1.62	1.17-2.24	0.003*	1.12	0.73-1.72	0.606	0.64	0.05-8.97	0.738

NB: Model 1: demographic factors (age, gender); Model 2: demographic factors, psychological distress, impulsivity; Model 3: demographic factors, psychological distress, impulsivity, intoxication, withdrawal; Model 4: demographic factors, general crime engagement, psychological distress, impulsivity, intoxication, withdrawal.

Hypothesis 1.

After controlling for demographics, psychosocial factors, and general crime engagement, participants were significantly more likely (62%) to commit a crime if they had used alprazolam in the hazard period, $IRR = 1.62$, $95\% CI [1.17-2.24]$, $p = 0.003$. Both crude and adjusted models for diazepam and temazepam were non-significant.

Hypothesis 2.

Crude and adjusted models run for amphetamines, heroin, methadone, cannabis, and alcohol were non-significant in all instances.

Hypothesis 3: Chi Square Analysis

Alprazolam was used by 7 of the 11 people who engaged in violent crimes (i.e., 63%) and by 28 of the 48 people who engaged in acquisitive crimes (i.e., 58%). There was no significant difference between the two groups, $\chi^2(3, 59) = 0.10$, $p = .747$.

Method

Participants

- 82 offenders aged between 21 – 56 ($M_{age} = 34.7$, $SD_{age} = 6.96$)
- Recruited from Drug Diversion Programs at the Melbourne Magistrates Court and Dandenong Drug Court in metropolitan Victoria

Measures

- Criminality Scale of the Opiate Treatment Index¹
- Severity of Dependence Scale²
- Time-line Follow Back Method³
- Kessler (K-10) Psychological Distress Scale⁴
- Urgency, Premeditation, Perseverance and Sensation Seeking Scale⁵

Procedure

- Structured open-ended qualitative interviews

Case-Crossover Design

- An event-based approach was utilised in which the participants' substance use in the 12-24 hours prior to a crime event (the hazard period) was compared with general substance use and criminal activity in the month prior to the crime event (control period)

Predictor Variables

Alprazolam
Temazepam
Diazepam
Methadone
Heroin
Amphetamine
Alcohol
Cannabis

Outcome Variable

Criminal activity
(index crime)

Covariates

Age
Gender
Psychological
distress
Impulsivity
Intoxication
Withdrawal
General crime
engagement

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Conclusions

Findings suggest that alprazolam use is uniquely associated with crime soon after use in an offending population.

The high potential for abuse and unique association with criminal activity has important implications for health care providers and those prescribing alprazolam for anxiety or related conditions.

This study highlights the importance of short term prescribing of the drug, particularly if addiction leads to abuse and engagement in acquisitive offences to fund further use.

The current study also provides evidence in support of developing alprazolam specific treatment programs to aid individuals in safely detoxing, managing cravings associated with addiction and dependence and monitoring safe alprazolam use.

