Binge drinking and violent recidivism by young offenders

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OVERVIEW. Problem: Associations between binge drinking and violence are strong, particularly in forensic samples, but prospective links between the two remain unclear.

Solution: *Four-year prospective study* examining impacts of bingeing on multiple aspects of violent recidivism by 793 Australian young offenders, adjusting for common risk factors for both behaviours.

Outcome: Bingeing (especially weekly or more) was amongst many variables predicting poor outcomes on multiple recidivism measures, and remained amongst the most significant after adjustment.

Conclusion: Binge drinking is a robust marker of violence risk amongst young offenders. Reducing frequent bingeing and addressing complex needs of heavy drinkers must be a priority for youth justice workers.

BACKGROUND & AIMS

Strong associations between alcohol use and violence have been reported for, and by young offenders who engage in high levels of both.

Bingeing results in intoxication and greater health and psychological harm than lower levels of use.

Relationships between these complex phenomena remain unclear, in part because they share **common risk factors** (to which offenders are often exposed).

Prospective studies can identify groups at risk of violence, and independent contributors to this risk.

This study prospectively examines links between binge drinking and **violent recidivism** by young offenders supervised community orders (YSCOs).

METHOD & DESCRIPTIVES

Sample: 793 YSCOs from 21 sites across the state. YSCOs comprise nearly 80% of supervised young offenders in NSW

Baseline data: comprehensive survey (2003-05) of multiple domains of functioning. See **Table 1** below.

Binge drinking defined using past year frequency of drinking ≥6 std drinks in a session for males, females ≥4 .

Recidivism data: Baseline data were linked to lifetime court records 3-5 years hence (only new convictions used).

Violence: Severity classifications of *NSW Law Parts* were developed with forensic psychologists. Other models used the *Australian Standard Offence Classification 2008 (ABS).*

Analysis: Logistic, negative binomial, survival, and multinomial models estimated the following ratios: odds (OR), incidence risk (IRR), time (TR), and relative risk (RRR).

TABLE 1: DESCRIPTIVES DOMAIN, Variable, level	Mean/%% Median	Definition/response options
DEMOGRAPHIC/FAMILY		
Age (years)	Mean 17.0	Range 12-21 (90% 15 to 19)
Female	15%	
Ethnicity: English Indigenous Other^	52% 19% 28%	^Born in or to parents from non-Western countries
Parent incarcerated (ever)	27%	
OFFENCE HISTORY		
Convicted before age 14	22%	Early onset offending
Prior violent convictions	Mean 1.5	Range 0-25
Offence frequency (past yr)	2 offences	Also called *lambda* (range 1-5)
Total custodial history	0-6months	None/0-6m/>6m
PEERS/SOCIAL		
Criminal peers (proportion)	Few/most	None/few/most/all
Fighting (frequency, p6m)	3 times	0/1/2/3/4/5+ (past 6 months)
Physical victimisation (any)	23%	By intoxicated person in p6m
COGNITIVE/PERSONALITY		
Anger/violence proneness	None	APS-SF symptom level : none/subclinical/low/mod/hi
Conduct disorder	Subclinical	
Head injury (ever)	39%	Leading to unconsciousness
Verbal IQ range	70-84	<70/70-84/85-99/100+
DRUG USE		
Cannabis use frequency	Weekly	None/monthly/weekly/daily
Binge drink never/rarely Less than weekly Weekly >2x weekly	18% 51% 22% 10%*	Also modelled as continuous covariate (range 0-4) *Females 23%, p<.05*
Missing data on all variables <5%.		

RESULTS: VIOLENT RECIDIVISM OUTCOMES

Prevalence was 47% (around half of all recidivism)

Mean violent offences (by recidivists): 1.9 (max 9)

Median time to violent recidivism: 390 days.

Table 2 presents associations with these outcomes

TABLE 2: MODELS	Model 1: PREVALENCE Odds Ratio (95% CI)		Model 2: FREQUENCY Incidence Rate Ratio (95%CI)		Model 3: SURVIVAL Inverse^ Time Ratio (95%CI)	
Variable: Level	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
Female	0.6 (0.4-0.9)*	***0.6 (0.4-1.0)~***	0.8 (0.6-1.2)		0.8 (0.8-0.9)**	***0.7 (0.5-1.0)~***
Age	0.8 (0.7-0.9)**	***0.8 (0.7-0.9)****	0.9 (0.8-.99)*	0.9 (0.8-1.0)~	0.6 (0.4-0.9)*	***0.9 (0.8-1)****
Ethnicity: English Indigenous Other	- 2.0 (1.4-3.0)*** 0.8 (0.6-1.2)	- **1.7 (1.1-2.6)*** 1.1 (0.7-1.6)	- 1.3 (.99-1.8)~ 0.8 (0.6-1.1)		- 2.0 (1.5-2.8)*** 0.9 (0.6-1.2)	 **1.6 (1.1-2.2)**** 1.1 (0.8-1.5)
Prior violent convictions	1.14 (1.0-1.2)**	**1.15 (1.0-1.3)***	1.1 (1.0-1.2)**	1.1 (1.0-1.1)~	1.2 (1.1-1.3)***	**1.2 (1.1-1.3)*****
Offence frequency	1.3 (1.2-1.4)***	**1.2 (1.1-1.4)*****	1.4 (1.3-1.5)***	**1.3 (1.2-1.4)*****	1.3 (1.2-1.4)***	**1.2 (1.1-1.4)*****
Total custodial history	1.7 (1.3-2.3)**	1.3 (0.9-1.9)~	1.7 (1.3-2.2)***	**1.3 (1.0-1.7)***	1.7 (1.3-2.3)***	1.3 (1.0-1.7)~
Anger/violence proneness	1.2 (1.1-1.4)***		1.2 (1.1-1.3)**		1.2 (1.1-1.3)**	
Conduct disorder	1.2 (1.1-1.3)***		1.1 (1.1-1.2)**		1.2 (1.1-1.3)***	
Fighting frequency	1.2 (1.1-1.4)***		1.2 (1.1-1.3)***	1.1 (.99-1.2)~	1.2 (1.1-1.4)***	
Criminal peers	1.3 (1.1-1.4)***	**1.2 (1.0-1.3)***	1.1 (.97-1.2)		1.8 (1.3-2.6)**	**1.2 (1.1-1.3)****
Physical victimisation	1.9 (1.3-2.6)***	**2.1 (1.4-3.1)*****	1.4 (1.1-1.8)*	1.3 (.99-1.7)~	1.7 (1.3-2.4)***	**1.8 (1.3-2.4)*****
Verbal IQ range	0.7 (0.6-0.8)***	***0.7 (0.6-0.9)****	0.8 (0.7-.94)**	***0.8 (0.7-.97)****	0.7 (0.6-0.8)***	***0.7 (0.6-0.9)*****
Cannabis use frequency	1.3 (1.2-1.5)***	**1.2 (1.1-1.4)****	1.1 (1.0-1.3)**		1.3 (1.2-1.5)***	**1.2 (1.0-1.3)***
Binge drink never/rarely Less than weekly Weekly >2x weekly	*Trend 1.33*** 1.4 (0.9-2.0)~ 1.8 (1.1-2.8)* 2.4 (1.4-4.3)**	***Trend: 1.27**** 1.2 (0.7-1.9) 1.7 (.98-2.9)~ 2.0 (.93-3.6)~	*Trend: 1.27**** 0.98 (0.7-1.4) 1.5 (1.0-2.1)* 1.9 (1.2-2.9)**	***Trend: 1.26**** 1.0 (0.7-1.5) **1.7 (1.2-2.5)**** **1.8 (1.2-2.8)****	*Trend: 1.28*** 1.2 (0.8-1.8) 1.7 (1.1-2.6)** 2.1 (1.2-3.5)**	***Trend: 1.24**** 1.1 (0.7-1.6) 1.5 (0.9-2.3)~ 1.6 (0.9-2.8)~
*p vs. reference group: ***.0001 **.001 *.05 ~.15*		Model R^2 =.12, χ^2=***		Model χ^2=***, R^2=.07, α=.8	^to compare with Model 1&2	Model χ2=*** 1/p=1.2

Additional bivariate significant terms: convicted before 14 (risks 1.4-1.7**); parent incarcerated (1.3~-1.4*); anger/violence (1.2***); head injury (1.2~-1.4*). Non-significant variables not shown include child maltreatment and out-of-home care.

RESULTS: BIVARIATE

Variables from all domains of functioning were associated with multiple violent outcomes. **Associations increased with bingeing frequency.**

Most led to modest increases in recidivism risk. >2x weekly binge drinkers were 2.4x as likely to commit violence (OR), did so at 1.9x the rate (IRR), and 2.1x as fast (Inverse TR) as non-binge drinkers.

RESULTS: MULTIVARIATE

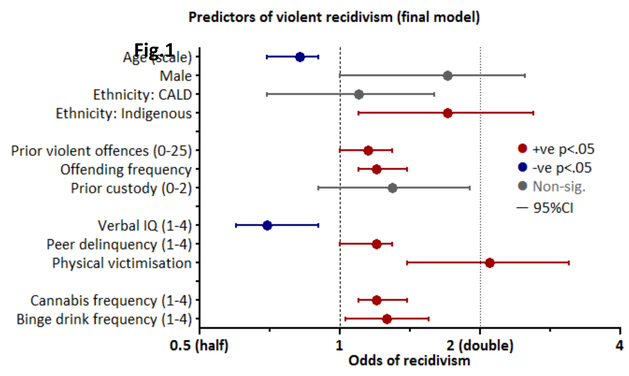
The bingeing/violence association was **robust to adjustment for confounding**.

Most outcomes for non- and non-weekly drinkers were similar, but much worse for weekly drinkers, suggesting the **association is non-linear**.

Other predictors of poor outcomes included prior violence and offence frequency;

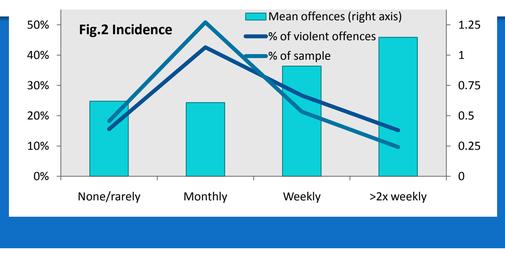
Outcomes improved with increasing age and VIQ.

Variables not contributing to violence risk after adjustment included anger proneness and early conviction. **Fig.1** displays **Model 1 (prevalence).**



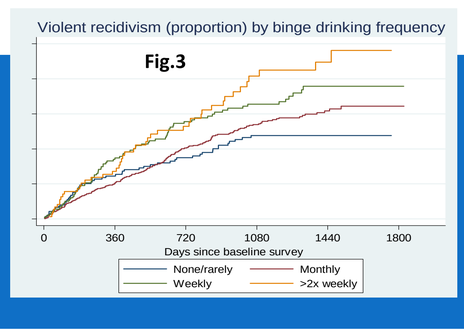
Model 2 (incidence) found at least weekly binge drinkers offended ~75% more frequently than less frequent drinkers. Unlike Models 1&3, incidence was unaffected by cannabis use.

Fig.2 shows the relationship between frequency of binge drinking and measures of violence frequency.



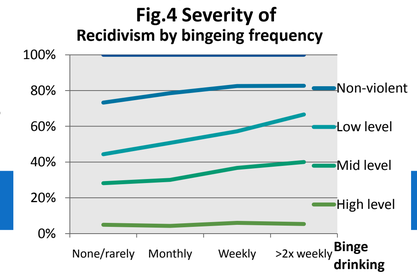
Model 3 (survival) found at least binge drinkers offended ~50% sooner than less frequent drinkers.

Fig.3 shows differences in recidivism over time, and the sustained risk for the most regular drinkers.



For **Model 4 (severity;** not in Table 2), 38% of violence was rated low (e.g. assault), 52% mid (aggravated assault) and 10% high (e.g. homicide).

Fig.4 shows associations between levels of violence and bingeing. In contrast with other models, bingeing was not an independent predictor; only conduct disorder RR1.1** and prior violence RR1.3** predicted higher violence.



CONCLUSIONS

Binge drinking is a strong predictor of participation, frequency, and time to violence by young offenders; especially regular drinkers, and is robust to adjustment

The consistent prediction of multiple poor outcomes suggests interventions targeted at heavy drinkers, if not drinking per se, may reduce violent recidivism.

Interventions must **take violent offenders' poor verbal reasoning into account** as well as concurrent drug use.

Infrequent bingeing is less strongly related to violence. Preventing progression to more frequent bingeing should be a priority.

Modifiable drivers of severe violence, and violence by non-drinkers require further investigation.

The strong link between victimisation and violent offending recalls existing findings and the need not only to treat but to protect these vulnerable youths.

Further considerations. 1. Violence prediction is an imprecise exercise; models rarely explain a large proportion of variance. 2. Potentially important data were not available (psychopathy, psychosis, expectancies). 3. Many offences do not result in convictions. Predictors of self-reported violence may differ.

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SELECT REFERENCES: Deas & Clark 2009; Kenny & Nelson 2008; Kenny & Press 2006; Kenny & Schreiner 2008; Kjelsberg 2002; Lennings et al 2007; Mazerolle et al 2000; Nelson et al 2010; Putniņš 2005