



THE UNIVERSITY OF  
SYDNEY

## **Submission to Independent Review of Lockouts, Last Drinks and 10pm Liquor Laws**

An empirical review of the  
*Newcastle Solution* & “place-  
based” alcohol related incidents:  
a call for real objectivity and  
evidence based policy.

Dr. Rohan Miller

The University of Sydney Business School

Rm 4205, [H70 - Abercrombie Building](#)

The University of Sydney

NSW 2006 Australia



Monday, April 04, 2016

# Violence: An Unacceptable Social Problem

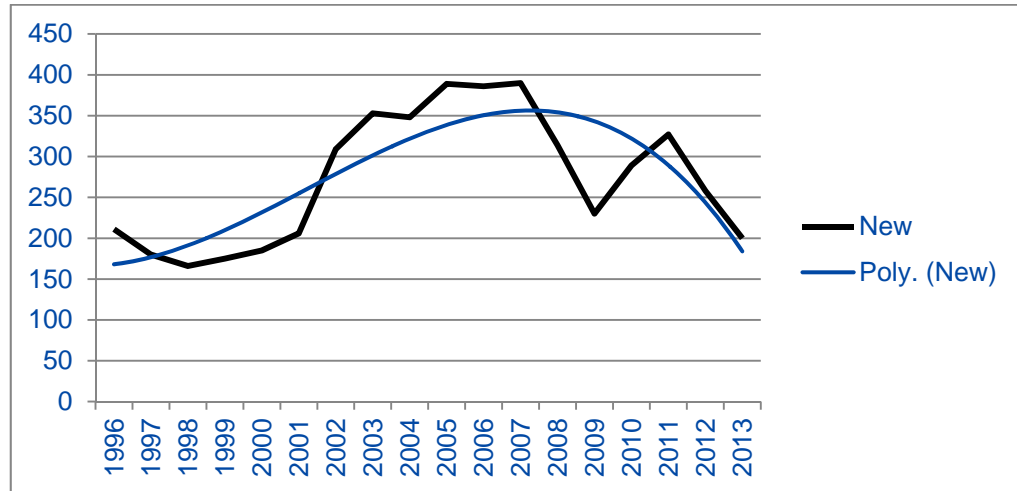
1. Interpersonal violence is unacceptable. Violence can result in the death and disability of innocent people and adversely affect families, friends, bystanders and service workers (& etc.) exposed to acts of violence and their aftermath.
2. This submission posits that public policy should be constructed that is informed by objective evidence, and explicitly recognises the various positions and interests of stakeholders.
3. It is our opinion that violence, especially violence that is allegedly related to alcohol, needs to be treated holistically.
4. According to Weatherburn (1997), “*Just as a small proportion of offenders have long been known to account for a disproportionate amount of offending*”.
5. Alcohol related violence is not a “rational” criminal act.
6. With the shift to “place” based solutions such as the *Newcastle Solution*, it needs to be explored whether the perpetrators of violence merely substitute their behaviours to other locations, including the domestic environment, switch to other dysfunctional behaviours (e.g. drug abuse), or whether they cease violence and other dysfunctional behaviours.
7. My research into dysfunctional behaviour leads me to believe the total cessation from violence is unlikely<sup>1</sup> in many offenders. Rather, many persons will substitute one location for another, or one disorder for another.
8. This suggests the current approach to restricting the availability of alcohol supply from certain premises at certain times, is flawed.
9. Indeed, a great deal of academic literature posits that violence as an antisocial form of behaviour may be attributed to other causes than the availability of supply at certain premises and at certain times. Social factors such as poverty, poor education, family instability and individuals with a lower IQ<sup>2</sup> are commonly associated with violence in communities.
10. In addition, a wide range of potential variables outside restricting trading hours and supply in some premises can shape the relationship between alcohol and violence (e.g. Lenke 1982; Roberts, Fox and McManus 2001; Graham et al., 2000).
11. These include the mediating variables such as the frequency of intoxication and frequency of visiting drinking places (Rossow 1996), frequency of drinking, the location and amounts drunk as predictors of alcohol-related problems (Casswell et al. 1993).
12. Clearly, the Independent Review of Liquor Laws needs to consider other factors than those typically modelled by BOSCAR, or collected by the police data systems (COPS).
13. On the topic of data, it is my strong opinion that the COPS data needs to be improved in terms of: what it measures, reliability, integrity and quality control, before it is assumed to be “accurate”.
14. Evidence that offenders are often drunk at the time of offending, however, is not sufficient to vouchsafe the conclusion that alcohol consumption causes crime. That conclusion requires evidence which excludes other possible explanations (Weatherburn, 1996)<sup>3</sup>.
15. Much of the modelling done by BOSCAR and other researchers assumes there is a *ceteris paribus* assumption that, among other things, inhibiting the sale of alcohol volume from hotels & some clubs will restrict violence<sup>4</sup>. This seems very unworldly and is inconsistent with a vast body of literature on this topic.
16. Based on research presented in this paper, and the extant body of literature, I have formed the opinion the policies introduced as part of the *Newcastle Solution* will not be successful in stopping alcohol related violence in our communities. A more holistic approach is required that considers a range of other variables.

## Reconsidering the Newcastle Solution

17. The theory underpinning the *Newcastle Solution* is the **Availability Hypothesis** that predicts an increase in the accessibility of alcohol will lead to increased consumption and a corresponding increase in alcohol-related crime (see Jones et al., 2009). This hypothesis is overly simplistic; and while it may offer intuitive appeal in context with a media moment, it fails to consider a large number of highly relevant factors that may influence the number of alcohol related incidents.
18. It is my opinion that the limitations of the Kypri et al (2010) study that validates the Availability Hypothesis and the roll-out of lock-outs, last drinks and 10pm liquor laws include:
  - a. Kypri et al relied on data from only a comparatively short period of time, approximately eighteen months, after the introduction of earlier closing time conditions. It is recognised this is all the data available to them, and this raises the question whether they were asked to do the analyses too early?
  - b. Kypri et al (2010, p106) observe a “large relative reduction in assault incidents of 37% in comparison to a control locality”. However, *there was only a significant reduction in assault rates in the third quarter after the law change*. The time lag between the new policy and a decline in alcohol related needs to be explained.
  - c. The research only considered alcohol-related violent crime between the hours of 10 PM to 6 AM. However, alcohol-related violence occurs outside these times and there is insufficient research to reliably consider that alcohol-related violence would only fall between these times, especially in the earlier closing environment. Further, if the temporal distribution of incidents changed significantly, a decrease in late night incidents may be accompanied by an increase in assaults at other times, implying the effectiveness of the policy could be zero.
  - d. It is claimed that Newcastle’s CBD was attracting around 20,000 younger drinkers ‘preloaded’ or intoxicated every weekend from up to 100 kilometers away and this was associated with the highest rate of alcohol-fueled violence, the highest rate of drink driving charges and one of the highest rates of assaults on emergency workers in the state of NSW. (Brown, n.d.). Therefore, the possible displacement of patrons from Newcastle to the neighboring Hamilton area needs to be explicitly considered – this was not done.
  - e. Kypri et al (2010) concede that many of the pubs in Hamilton adopted most of the elements of the Newcastle solution voluntarily. Thus, there is considerable doubt that Hamilton was unsuitable for the control condition.
  - f. There is substantive doubt about the use of “criminal incidents” as data suitable for policy review.
  - g. According to an article in the Daily Telegraph (2010) newspaper, an internal NSW Police memo alleges that a quarter of assault cases reported to some policing areas have been “rejected”, thus reducing the number of potential incidents. This raises issues relating to data quality and whether there is sufficient scrutiny of police data management (especially in the conflicted situation when the police as an executive arm of government are driving a policy agenda).
19. The following analyses were undertaken using annual data obtained from the BOSCAR website in late January 2014. It is thus subject to some of the weaknesses of the data described above. However, it does provide additional control groups and a lengthier period of time than Kypri et al (2010).
20. Figure 1 illustrates the time series of observations of alcohol related non-domestic assaults for Newcastle during the period 1996-2013 (in black). As a benchmark, a fitted line that corresponds to a polynomial of order 3 (blue) has been superimposed. In 2008 there is a large decrease (approximating 20%) in assault incidents in Newcastle when

compared to 2007. Furthermore, this decrease appears to be a roughly sustained trend until the end of the sample in 2013.

**Figure 1: Newcastle: 1996 -2013 Time Series Observations on Alcohol related Non-Domestic Assaults**



21. Figure Two provides the results of a simple regression model of the number of assault incidents on a quadratic trend, allowing a structural break in both intercept and trend yields the following output<sup>1</sup>. The linear and quadratic trend coefficients are small and largely statistically insignificant. The intercept dummy also appears to be insignificant at the 10% level. The only significant result is the 'trend\_dummy' coefficient that corresponds to a break in trend; this is negative and statistically significant at the 10% level.

Up until 2008 there appears to be a small positive (but not significant) trend. However, after the policy change in 2008, the number of assault incidents rapidly decreases. Since there were about 400 alcohol related non-domestic assault incidents in the Newcastle intervention area in 2007, the estimated trend-dummy coefficient, which equals roughly -.2, implies that the first year the number of assaults is expected to go down by 80, followed by 160 the following year and so on.

These results do not imply that the imposed restrictions have *caused* a decrease in the number of alcohol-related assaults. This is because other than a quadratic deterministic trend structure, the model in Figure 2 does not contain any explanatory factors that may exert some influence on crime, the effect of which is ultimately absorbed by the structural break in trend. If this is true, then the estimated effect of the policy change is biased.

<sup>1</sup> Number of (alcohol related non-domestic) assaults is in logs.

**Figure 2: Newcastle 1996-2013: Regression Non-Domestic Assault Incidents**

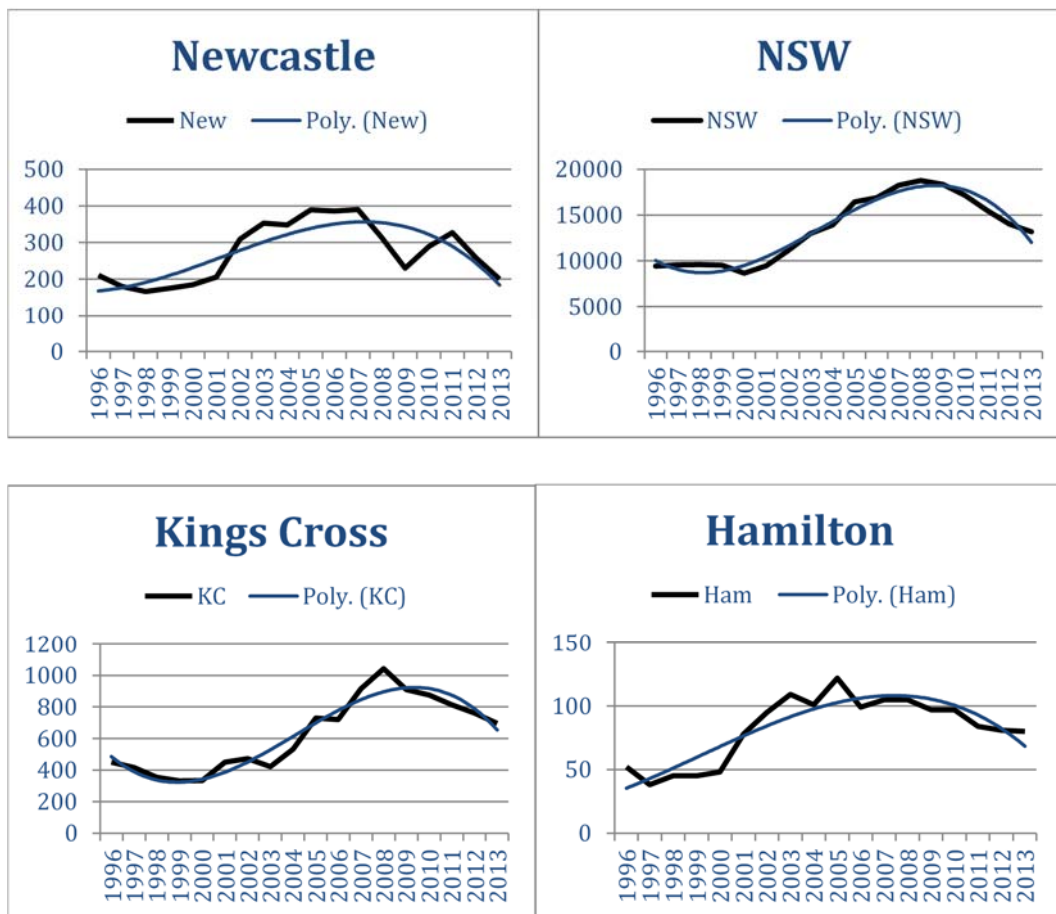
Source	SS	df	MS			
Model	1.1867284	4	.296682099	Number of obs =	18	
Residual	.393970795	13	.030305446	F( 4, 13) =	9.79	
				Prob > F =	0.0007	
				R-squared =	0.7508	
				Adj R-squared =	0.6741	
Total	1.58069919	17	.092982305	Root MSE =	.17408	

log_new	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
trend	.0470604	.0628083	0.75	0.467	-.0886287	.1827495
trend2	.0032022	.0046998	0.68	0.508	-.0069512	.0133556
trend_dummy	-.1973921	.0953957	-2.07	0.059	-.4034821	.0086978
int_dummy	2.054388	1.17433	1.75	0.104	-.482598	4.591375
_cons	5.079603	.1783346	28.48	0.000	4.694335	5.464872

22. In order to obtain some idea about the potential of omitted factors/variables that drive the downward trend in alcohol-related crime as observed after the 2008 policy change, consider the graphs in Figure 3. These illustrate the time series of observations of alcohol related non-domestic assaults for Newcastle, NSW as a whole (net of the Newcastle intervention area), Kings Cross and Hamilton during the period 1996-2013. Again, as a benchmark, a fitted line that corresponds to a polynomial of order 3 is superimposed into each chart.
23. The graphs in Figure 3 reveal a similar pattern in the number of alcohol-related assaults arises for NSW as a whole, the Kings Cross local area command and Hamilton. It is interesting there appears to be an upward trend in assaults until 2008, followed by a 'structural break' that took place in 2008 – thereafter, the number of assault incidents steadily decreases at a high rate.

**Figure 3: Time Series 1996-2013 Alcohol related Non-Domestic Assaults: NSW, Newcastle, Kings Cross and Hamilton**



24. The data in Figure 3 prompts the question: How is it possible for alcohol related non-domestic assaults in NSW to follow a similar pattern to the one in the Newcastle intervention area? There are two likely possible explanations:
- One is that the trading restrictions have affected not only Newcastle, but the state of NSW. This seems implausible.
  - The second and more likely explanation suggests there were underlying factors that influenced the alcohol related crime rate (incidents) in general in NSW and these are also incorporated the Newcastle and Hamilton areas.
25. The second explanation can be empirically tested by running a regression that is identical to the previous analysis, except for the inclusion of the number of assaults for NSW (net of Newcastle) as a regressor. If there are underlying factors that affect crime across NSW, other than the policy change in the Newcastle intervention area, the coefficient of NSW should be statistically significant and be able to predict fluctuations in crime.

26. After controlling for underlying factors that drive assaults – captured by the log\_nsw coefficient, Figure 4 reveals the trend-dummy coefficient has a positive effect on crime. In fact, the estimated coefficient is statistically insignificant with a p-value of around .36.
27. **Therefore, at best, the data show that the early closing hypothesis or Newcastle Solution had no effect in reducing alcohol related violence**, when the factors pertaining to the state as a whole are controlled. The coefficient of the number of alcohol-related assaults in NSW (net of Newcastle) is large and statistically significant. Since both dependent and independent variables are in logs, the coefficient provides an estimate of the elasticity of assaults in Newcastle given changes in NSW.

**Figure 4: Regression: Newcastle 1996-2013 with NSW (net of Newcastle)**

Source	SS	df	MS			
Model	1.296082	5	.2592164	Number of obs =	18	
Residual	.28461719	12	.023718099	F( 5, 12) =	10.93	
Total	1.58069919	17	.092982305	Prob > F =	0.0004	
				R-squared =	0.8199	
				Adj R-squared =	0.7449	
				Root MSE =	.15401	

log_new	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
trend	.0903924	.0591156	1.53	0.152	-.0384095	.2191944
trend2	-.0072879	.0064152	-1.14	0.278	-.0212654	.0066896
trend_dummy	.1894342	.1989398	0.95	0.360	-.2440184	.6228867
int_dummy	-2.7733	2.47676	-1.12	0.285	-8.169696	2.623097
log_nsw	1.369004	.6375701	2.15	0.053	-.0201424	2.758149
_cons	-7.46284	5.843377	-1.28	0.226	-20.19447	5.268784

28. The analysis in Figure 4 provides an illustration of the dramatic effect that omitted variables may have in regression modelling. **It is clear that the results obtained from the first output that suggests the early closing hypothesis had a desirable effect on alcohol related violence, are invalid and fail to pass a fairly simple robustness check.**
29. This review of the early closing hypothesis leads to the conclusion that there is not a simple relationship between licensed premises and alcohol-related violence. This is consistent with our earlier comments that there are many issues outside liquor licensing times that can impact alleged alcohol-related violence incidents.
30. **Indeed, a failure to consider the rich body of literature considering other variables that may influence violence and alcohol suggests that policy decisions based on the assumption of a simple relationship between violence and the time alcohol available in licensed premises will be ineffective and a poor use of public resources.**
31. More than half of Australia's drinkers consume risky levels of alcohol (Sydney Morning Herald, 2014a) and it must be recognised that the vast majority of people who consume alcohol do not experience or partake in violent behaviour (Plant et al., 2002).

32. Despite this, a number of studies show that violent acts are frequently perpetrated by individuals who have consumed alcohol close to the time of the offence (Collins, 1982). Although there is often a strong correlation between alcohol and violent crime, the nature of the evidence, including the lack of a suitable comparison group, typically prohibits a causal link (Murdoch et al 1990).
33. Moreover, the mere association between alcohol and violent behaviour does not imply alcohol plays a causal role in violent behaviour (Lipsey et al, 1997).
34. Indeed, typically it cannot be determined which, if any, elements of violence are attributable to alcohol consumption (Bushman & Cooper, 1990).
35. The attribution of alcohol related violence needs to consider on whose turf violence occurred, and where the alcohol was purchased and consumed. This is not apparent from most of the research in the area.
36. We do know that licensed premises do not control and are not responsible for the street environment: this is the police force's domain. A number of high profile incidents occurred in highly policed public places.

### Who appears to be the Driver of Liquor Licensing Change?

37. It was the New South Wales police initially lodged a complaint with the State's Liquor Administration Board (LAB) that four licensed premises were causing "undue disturbance of the quiet and good order of the neighborhood" (Jones et al., 2009, p.9).
38. The NSW Police and the Director of the Office of Liquor and Gaming and the NSW Police Force requested a further 11 premises be added to the complaint (Jones et al., 2009).
39. From media observations over time, it seems that the police are the most prominent public stakeholder in this debate. Indeed, I have formed the opinion the police seem to be promoting an agenda based on emotions that is underpinned the Availability Hypothesis.
40. To draw from a wise perspective, *executive power is in practice exercised by persons under the direction of, ministers of state, who are themselves members of parliament and politically responsible to the legislature. The principle has taken deep root in our community, and the theory of the \*separateness of legislative, executive and judicial functions has gained general acceptance*<sup>5</sup>.
41. It must be asked whether it is appropriate and healthy for democracy for the police, as an executive level of government, to be using a range of tools to influence the public and politicians.

### Some Conclusions and Questions

42. It is clear that alcohol-related violence has been declining for a period of time, and this change is independent of the so-called Newcastle Solution.
43. It is a salient question, why don't the police, BOSCAR statisticians, lobby groups and politicians know this, and draw this to the attention of the public?
44. Unfortunately, the real causes of violence in our communities remain largely unaddressed by attributing alcohol related violence to "place" based alcohol regulations such as the Newcastle Solution and may result in a waste of taxpayer resources.
45. There is a need for more objective and independent research to be undertaken into alleged place-based alcohol related violence.



46. An extensive literature review into violence, that also includes place and domestic alcohol related violence, should precede any further empirical research.
47. Why “place” is based policy alcohol control required for New South Wales? It is our belief, this fundamental question remains unanswered to date.
48. Is “place” based policy alcohol control working in NSW? Not according to our analysis.

## Limitations, Disclosures and Disclaimers

**Research Limitations in the review of the Newcastle Solution:** The issues that need further consideration include drinker migration, pre-fueling and bottle shop purchases, the use of illicit drugs and the methods used by police to collect and record data. The addition of new variables and better data would help in the analysis of crime and help us to really understand the issue of violence, and alcohol related violence (and likely other issues) in our communities. Research presented by NSW commentators has understated or ignored the potential effect of other issues on supposed alcohol-related violence.

**Disclosure:** The author has lived and worked in hotels in Victoria, and has previously consulted to and worked for organizations and industry bodies that derive revenue from alcohol and gambling. This submission was unfunded and unsolicited, but I developed a body of knowledge and collected and reviewed data relating to the issue of liquor licensing issues presented in this paper during consulting roles.

**Disclaimer:** While the author has endeavoured to provide objective and reliable analysis and believes the material it presents is accurate, it will not be liable for any claim by any party acting on such information.

## References:

A full list of the references used in this paper is available on request.

---

<sup>1</sup> Li X, Lu S and Miller R (2013) “Self-Medication and Pleasure Seeking as Dichotomous Motivations underlying Behavioral Disorders”, *Journal of Business Research*, vol.66:9, pp. 1598-1604 

<sup>2</sup> David O. Carpenter and Rick Nevin (2010), “Environmental causes of violence”, *Physiology & Behavior*, Volume 99, Issue 2, 9 February 2010, Pages 260–268

<sup>3</sup> <http://www.bocsar.nsw.gov.au/Documents/r40.pdf>

<sup>4</sup> <http://www.bocsar.nsw.gov.au/Documents/r40.pdf>

<sup>5</sup> Gleeson, A. M. (nd) <http://www.walk.com.au/pedestriancouncil/Page.asp?PageID=339>