Reviewer's report

Title: Teenage drinking, alcohol availability and pricing: a study of risk and protective factors for alcohol related harms in school children

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Reviewer: Alasdair Forsyth

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Overall Comments
This was an interesting paper addressing an issue which is of great public health importance and (for a change) currently achieving a media high profile and political significance.

Although there are some weaknesses in the methods used, the large and varied sample achieved should compensate for some of these, as should the importance of such work at this time. However, I would rather that the authors did not make policy recommendations (or endorsements) based on this research alone.

These reservations aside, I think that when published this paper can add greatly to current debates about teenage drinking patterns, and their harmful consequences, particularly in relation to alcohol product type, supervision and deprivation.

I have only a few points to make which I feel that the authors need to address, but a larger number of discretionary points and suggestions, some of which I hope the authors will take on board, as I feel that addressing these would improve this paper.

Discretionary Revisions

1. Page 6, first paragraph, line 7 - “five or more drinks in one session” seems rather vague.

2. Page 6, first paragraph, final sentence - Do we need to know that the four-point scale was dichotomised (without knowing what this was)?

3. Page 7, second paragraph, second from last and final sentences – I am not all happy with the inclusion of the 2,063 who gave no postcode in these analyses. Did the authors not include an open-ended question asking for area each respondent’s of residence to cover for this eventuality? This would have been more acceptable than using school addresses, which I do not believe are fit for this purpose. [As an aside this is precisely the sort of ‘fiddle’ that can be used to improve the social inclusiveness profile of certain academic institutions operating...
in the tertiary sector].

4. The reasons for my concerns here include that many schools are located either at accessible central places (town centres) or on the edge of the urban area (owing to the availability of land for such facilities) and as such these may not accurately reflect the housing areas of their catchment. Additionally many pupils live far away from the school which they attend for a variety of reasons (e.g. exclusions, placements, housing-relocations, scholarships, capping, parents having more than one ‘address’, etc.). [This is very important within the secondary school context as attending a school from outside its catchment tends to be because of deprivation / social class gradients (e.g. either parents are purposively sending their children to a higher achieving school across town, which invariably means in a ‘nicer’ area, or children form less advantaged families are unable to gain a place at their local school because of this) and this effect is at its most marked in the later compulsorily school years sampled here (e.g. as both exclusion rates increase and as the importance of exams / achievement, i.e. ‘league tables’, becomes more salient in parental ‘choice’). Whilst retaining their current analyses / results, I would prefer to see these analyses repeated without these non-postcode individuals (or at least some comment that these 2,063 did not differ systematically from the 4,158 plus the 1,744).

5. Also, had the remaining 298 respondents no school?

6. Page 7, second paragraph – Why “supermarkets”, why 29 of them? What evidence do the authors have that these are the kinds of premises where 15-16 year-olds ‘score’ alcohol products (i.e. other than the Daily Mail etc.). Did all these “supermarkets” have the same level of access to alcohol for young people? For example, at corner-shops convenience stores it may be more easy for some under-age consumers to get served, but at these they may have less likelihood of success at making a proxy purchase (local shopkeepers know their community and who is likely to attempt to perform this service for under-agers, e.g. see Forsyth et al, 2007), meanwhile the major superstores are likely to employ stricter age-ID policies, but at these larger more anonymous premises proxy purchasers are less likely to be known and / or challenged.

7. Similarly why the cheapest products? What evidence do these authors have that the products chosen by 15-16 year-olds are always the cheapest (this impacts directly on later arguments made about price / products and problems). For example, this assumption would not hold with youth tobacco research, if it did then it would be assumed that 15-16 year-olds smoke cheap brands of roll-ups? It is not always the case that this age group chooses the cheapest option. Such drinks can have negative associations for this image conscious age group (e.g. some economy ciders are viewed as being for younger children or as “jakey-juice” consumed by ‘skid row’ alcoholics, e.g. see Galloway et al, 2007).

8. Page 8, first paragraph – Why only these seven product types? There appears to be some glaring omissions here given what is known about teenage drinking. I
could list several but, in the absence of knowledge about teenage drinking patterns in this region of England, two locally manufactured products immediately sprung to mind. Firstly perry (i.e. Lambirini) and secondly caffeinated beverages (e.g. Red Square), see: http://www.halewood-int.com/home/

9. Further to above, I would like to see examples of the brands, products, prices and ABV calculations which the authors came up with.

10. Is it possible to distinguish between types of cider (i.e. low ABV ‘amber cider’ and high ABV ‘white cider’) as I’d imagine that this is a much more important factor in reaching rapid intoxication than is the size of the container (e.g. see http://www.james-crowden.co.uk/index.php?option=com_content&task=view&id=102&Itemid=30)?

11. Similarly what are the types of beer being consumed (e.g. between ‘ordinary beer’, ‘premium lager’ and ‘super’/‘special brews’) or ordinary wine and ‘wine’ based fortified beverages (e.g. MD 20/20)? For example (in the next paragraph), beer equates to two units per bottle or can, therefore can it be assumed that these 15-16 year-olds are drinking more bitter than ‘Stella’?

12. A simple question asking for brand consumed and container type would reveal all this information more accurately (though I appreciate it can involve a lot of fieldwork in off-licenses to calculate exact content from brands, especially for those products which the adult researcher may, at least at first, be unaware of), and also make the cost estimates more robust (i.e. if the actual brands are known rather than the assuming the “cheapest” in their class).

13. Similarly the researchers could have asked respondents about actual expenditure? Perhaps the best strategy would have been for the authors to compare their made up prices, products / brands etc. with the respondents’ self-reports (i.e. as a check / validation even if the authors chose not to use the latter). In fairness though, the authors do acknowledge this limitation (page 12, first paragraph) and in future I hope they are able to account for it (in my experience this is not as difficult a task as it sounds because this age group are very good at remembering exactly what they had drank, spent their money on and where).

14. Page 8, second paragraph - Why were units of wine calculated by glass and not per bottle or can as with other beverages? In some parts of the UK (e.g. Scotland, Northern Ireland, see below) it would be unheard of for consumers in this age group to drink certain popular wine(s) from a glass. How big is a glass?

15. I have many reservations about asking these respondents to make up a “typical week”. There must have been all sorts of lies and misrepresentations going on here (e.g. pretending to drink more socially acceptable beverages) so that respondents were able to conform to perceived drinking norms which they felt portrayed themselves in the best possible light to the researchers.

16. Results – I would like to have seen more on relationships between beverage type and source of supply (i.e. parents – could partial out home and park wine
drinking).

17. Page 11, first paragraph - It was refreshing to read that alcopops were inversely related to problems (i.e. violence). Although this should be a no-brainer (given their image, high cost, low ABV, small containers, screw-caps, etc), this needs to be highlighted. In the 1990s, those who found this were treated in much the same way as those who dare to be objective about ecstasy are in the UK the present time. However given that politicians still single out these beverages, as problematic, deserving special intervention, the authors should be bold enough to highlight this finding and discuss why this might be (e.g. see Watt, 2008). I would be tempted to recommend publication of this paper for this reason alone.

18. Page 12, paragraph 2 – Given recent debates in the UK and elsewhere about illicit drugs, especially cannabis and ecstasy, where vast batteries of expensive tests / trials (ranging from questionnaire instruments to electron microscopes), with invasive procedures, longitudinal studies, advanced statistical modelling etc., involving thousands well-funded research projects which have been employed solely to attempt to find harm, with debatable ‘success’, this reader was struck (and reminded) of just how easy it is to find real harm caused by the drug alcohol, even to novice users. I would encourage the authors to make this point at this time.

19. Page 14, last line / page 15 first line – I am not convinced that this is the best argument for ‘minimum pricing’. As I understand it this policy works best with those problem drinkers who are already spending all their free cash on alcohol (slicing off the top of the pyramid of consumption – though doubtless leading to more collateral harms for both the problem drinker and their families, e.g. debt) and, more importantly, that this policy reduces consumption in general (adult) population (i.e. only a little price increase is required to reduce the consumption of a lot of people). The authors need to find evidence that this policy works with this age-group. It may be the case that moderate increases may simply lead younger drinkers towards more bingeing and product switching (e.g. to spirits or fortified beverages, by which more rapid intoxication can be achieved). More substantial price increases (beyond the minimum increase required to make an impact in the wider population, or what might be tolerated politically) may be required to influence some in this age group. However any substantial increases in the real cost of alcohol risks leading to more associated youth crime (e.g. theft of alcohol, theft to buy alcohol, more intimidation of adults to make a proxy purchase and shop robberies), the fostering of an illegal alcohol market (over-lapping with that of illegal drugs) and the mixing of drinks with other drugs (e.g. street diazepam) in order achieve desired levels of intoxication. While not disagreeing with the potential that minimum pricing has to reduce drinking in this age group, I think the authors do need to consider these untested possibilities if they still want to go down this road. However, I am not sure that this paper is the best place for them to make this argument and would rather that this section was omitted, strengthening the paper as a research exercise.

20. Page 15, first paragraph – “beer may be considered a tougher drink for
youths than alcopops”. Whereas I agree with this statement it needs expansion, evidence etc. Politicians might not agree (e.g. http://www.thepublican.com/story_attachment.asp?storycode=59146&seq=1&type=P&c=1). Are the authors suggesting that it is product / brand image that causes (some) of these problems, rather than it being down to the effect of the drug itself (ABV etc.)? If so this needs to be developed (drug, set and setting?).

21. Surely white cider has an image (maybe there is a clue in these products brand names) and the cultural symbolism of consuming this drink needs to be explored rather than putting it all down to low price, high ABV (i.e. as with beer above).

22. Do the authors have any evidence that wine was consumed by the glass at home (presumably at meal-times with their parents) or was a proportion of wine consumption (probably some ‘non-table’ wines) consumed by the bottle in the park (e.g. see Forsyth & Barnard, 2000)? In this respect, the youth wine market may be the most diverse, as relative to say beer it is strong in ABV and can very be cheap. This finding somewhat undermines the price arguments made by the authors.

23. Related to both of the above points - In some parts of the UK (e.g. Northern Ireland and most of Scotland) wine, particularly one brand of tonic wine, is viewed as the problem of youth drinking (e.g. see Beers, 2009; Galloway et al, 2007; Forsyth et al, 2007). This brand of tonic wine currently retails at around £6.50 per bottle. An attempt to introduce minimum pricing by the Scottish Government was undermined when it was pointed out that this most problematic beverage would not be affected by this measure owing to its premium price (e.g. see Johnson, 2008). As the authors point out, with beer, the symbolic roles of beverage types are crucial in this age group, and this may run counter simple price / ABV calculations. Policy makers / health educators need to be made more aware of this cultural significance factor.

24. Page 15, second paragraph – I am not sure what the authors are getting at here or what mention of test-purchasing adds to the paper. Surely this will only encourage proxy purchasing from supermarkets and serve to demonise local corner shops who may not have the economies of scale / security resources to withstand this form of entrapment. There seems to be an assumption in the UK at this time that small shopkeepers, who are often members of minority groups, and who can provide a vital service to disadvantage communities (not just in terms of alcohol provision, though their commercial viability may be dependent upon being licensed to sell this product) are responsible for the country’s teenage drinking problems, when in fact they are themselves all too often the victims of these youths drunken behaviours, either physically through violence or economically through the loss of their business / license. To support their views on this, the authors need to draw on more evidence, but like the section on minimum pricing I would prefer to see this section removed, as it detracts from their findings (which are highly interesting in their own right without the need for indulgence in making any policy recommendations)
Minor Essential Revisions

25. Page 7, first paragraph, line 5 – Is this sampling age restriction influenced by school year group (i.e. are many 16 year-olds not represented here because they are already school-leavers). A note of this either way is required.

26. Page 15, first line – the words “standard size” should be removed, because the authors themselves had removed the larger sized beer packaging from their analyses and in any case there must be some doubt about exact size of containers and variance in ABV here.

Major Compulsorily Revisions

27. There is a lot in the introduction about international aspects of youth drinking, but little thereafter. Some mention of regional effects should be made. How applicable is this sample to other parts of the UK and are these findings applicable more globally. Only one sentence requires though.

28. Page 11, second paragraph - I know there are already a number of limitations given here (i.e. in relation to honesty, recollection, general products, typical amounts etc.), which might already detract from the findings, but I think the authors need also to state that the postcode / deprivation information was imprecise (at least as the paper stands, see above comment 4. above), and that price calculations may not have related to the actual products (i.e. brands) consumed (i.e. researcher defined products, premises, price calculations, and in relation to a supposedly typical week – the ‘bling factor’ among respondents).

However I must stress, that these are caveats that need to be acknowledged first, rather than fatal blows to this paper once they are.

References


Johnson, S. (2008) More than half of young offenders in Scotland blame alcohol for their crimes: More than half of young criminals in Scotland blame alcohol for their crimes, almost double the level recorded 30 years ago. The Telegraph, October 8th.


**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests