

Supplementary written evidence submitted by the British Dietetic Association (END0026)

1. The British Dietetic Association is grateful for the opportunity to submit further evidence to the Select Committee's inquiry, following the initial oral evidence session on 12th June 2018. This information is intended to elaborate on the points made by those giving evidence to the committee and answer some of the specific questions raised by members of the committee during the session.
2. Since Annabel Gipp gave evidence on behalf of the BDA to the committee, the Government has announced its intention to consult on a ban on sales of energy drinks to children in their recently published [Childhood Obesity: A Plan for Action Chapter 2](#). This is very welcome news and the BDA will support the introduction of a ban. We hope the committee's findings will provide strong evidence for the government's planned consultation.

Under-16 Drink Consumption

3. It was reported to the committee that only 6% of energy drinks sales were to children under 16. The BDA does not have access to that data source, but we believe it important to highlight that significant numbers of children and young people are consuming these drinks, and at levels higher than many others. EFSA research¹ suggests that 69% of UK adolescents (aged 11-17 years old) consume energy drinks, and that those who do so are drinking on average 50% more than the EU average for that age group.

Risky behaviours and energy drink consumption

4. Committee members were keen to understand the link between risky behaviour and energy drink consumption. In their paper for the Food and Drinks Collaboration, Dr Shelina Visram and Kawther Hashem in 2016² found that the use of energy drink predicted the consumption of alcohol, however, no causal link was mentioned. It appears that the consumption of energy drinks may act as a 'gateway' to other risk behaviours, and the continued use of energy drinks, especially with alcohol, increases the associated risks of these behaviours
5. Breda *et al*³ found that there appears to be an association with energy drink use and risky behaviours, but also those who drank energy drinks and alcohol, when compared to those who had drunk only alcohol, were more at risk of negative sensation seeking behaviours

Anxiety and caffeine

6. Committee members asked about whether caffeine was a cause of anxiety or whether anxiety was instead caused by other impacts of caffeine, such as poor sleep. Visram and Hashem's evidence review indicates that increased levels of caffeine are a direct cause of anxiety. It has also been shown that caffeine acts on the peripheral nervous system, producing similar symptoms to anxiety. This may also lead to a worsening of anxiety related symptoms within those already susceptible to anxiety related disorders
7. Again in their review of the evidence, Breda *et al* found that those who consumed energy drinks within the military had higher prevalence of suicidality, and this was higher still in those who combined energy drinks with alcohol. This correlation does not imply causation however.

Safe levels of caffeine

8. Questions were raised about a "safe" level of daily caffeine consumption by children, and whether this differs depending upon a child's size or age. It is very difficult to establish a 'safe' level of caffeine for children due to a lack of research in this area, in part due to obvious ethical concerns

¹ <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/sp.efsa.2013.EN-394>

² <http://foodresearch.org.uk/wp-content/uploads/2016/07/Energy-drinks-final-19-July-2016.pdf>

³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4197301/>

Supplementary written evidence submitted by the British Dietetic Association (END0026)

with undertaking research on children, but it is well established that there are no benefits to the health of young people.

9. The EFSA in 2015 reported⁴ that a single dose of caffeine up to 200mg, corresponding to approx. 3mg/kg of body weight for a healthy 70kg adult, would be unlikely to produce any negative effects. This advice is specifically related to adults, and EFSA state that “For children and adolescents, the information available is insufficient to derive a safe caffeine intake.”

Risks of physical activity and energy drink consumption

10. There are anecdotal reports of people consuming energy drinks prior to exercise leading to sudden cardiac arrests and new onset seizures^{5, 6}. A medical report into the death of a man in Australia proposed that ‘a combination of excessive ingestion of caffeine- and taurine-containing energy drinks and strenuous physical activity can produce myocardial ischaemia by inducing coronary vasospasm’⁷

Links between energy drink consumption and alcohol

11. There is increasing prevalence of energy drinks being mixed with alcohol, and Breda *et al* found in their review of the available evidence, that use of energy drink increases the risk of both combining these with alcohol and increases the risk of alcohol dependence, due to the neuropharmacologic effects of caffeine increasing tendency for addiction (caffeine is known to act on the reward centre of the brain). The effects of caffeine combined with alcohol produces an effect known as ‘wide awake drunkenness’. This both keeps the individual awake longer allowing them to drink more, but also reduces the tiring nature of alcohol, leading to an increased drinking in one session and increased drunkenness when compared to those not consuming energy drinks.

Differences between coffee and energy drinks

12. The committee specifically asked for evidence relating to the differences between consumption of caffeine from energy drinks and from other sources, such as coffee. In Franks *et al*'s 2012 study⁸, the effects of caffeine from energy drinks was shown to be greater than in the equivalent caffeine provided by coffee. They suggest that this is due to either the additional ingredients often found within energy drinks e.g. taurine, or the alteration in the absorption of caffeine due to these ingredients.

Energy drink labelling

13. Committee members were specifically interested in the rules regarding the use of warning labels on energy drinks and whether these could be made bigger. The Code of Practice from the BSDA⁹ in 2015 is based on the EU Regulation 1169/2011¹⁰. It is mandatory that all energy drinks display: ‘High Caffeine Content. Not recommended for children or pregnant or breast-feeding women’ followed by the exact caffeine content in mg/100ml on the label.
14. There are also several ‘voluntary’ measures which the BDSA recommend including:
 - Label should detail ‘consume moderately’ or words similar to this (This requires the consumer to interpret the amount which is considered to be ‘moderate’)

⁴ <https://efsa.onlinelibrary.wiley.com/doi/10.2903/j.efsa.2015.4102>

⁵ <http://www.journalmc.org/index.php/JMC/article/view/2259/1624>

⁶ https://www.researchgate.net/publication/253338138_Death_of_a_young_man_after_overuse_of_energy_drink

⁷ <https://www.ncbi.nlm.nih.gov/pubmed/19120009>

⁸ <https://www.ncbi.nlm.nih.gov/pubmed/22298600>

⁹ http://www.britishsoftdrinks.com/write/MediaUploads/Soft%20Drinks/Revised_Energy_Drinks_Code_of_Practice_270415.pdf

¹⁰ <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32011R1169>

Supplementary written evidence submitted by the British Dietetic Association (END0026)

- No marketing communications concerning energy drinks should be placed in ANY MEDIA with an audience where above 35% is underage.
 - No commercial activity within primary or secondary schools
 - No static advertising within 100m of a primary or secondary school gates
 - Not to promote irresponsible or excessive consumption
 - Will not suggest the any association with illegal or anti-social behaviour
 - No claims for the consumption of these beverages with alcohol
 - Not marketed as sports drinks
 - However, these are all voluntary and not mandatory according to the BSDA guidance
15. Although the UK's exit from the EU may simplify the process of changing labelling requirements for energy drinks, it is important to remember that changes can already be made within the current regulations.

Energy drink “gamification” and in-game promotion

16. It was stated by the BSDA that computer games featuring energy drinks would only be marketed towards those over-16. Following a short search, the BDA was able to identify a number of occasions on which games clearly designed for an audience that includes children featured energy drinks prominently, including;
- Rockstar Energy Drink provided power up codes for players of “Destiny 2” one of 2017's biggest game launches and a game rated suitable for “Teens” in the US¹¹
 - Monster Energy Supercross¹²
 - Red Bull Air Race: The game¹³
 - Red Bull Snowboarding the Fourth Phase¹⁴

Response to Monster Energy Drinks

17. In their supplementary written submission, Monster Energy Drinks have questioned a number of points relating to the BDA's submission. We wish to highlight the following.
- Paragraph 4-5 – Monster are comparing their energy drink to coffee consumed. This would appear to be a difference of opinion over the definition of a “cup” of coffee as someone might reasonably understand it. It is true that very large portions of coffee as sold by high street chains do contain large amounts of coffee and the BDA would argue that these are unsuitable for children as well. However, we do not believe children are consuming coffee in such amounts with the same regularity as energy drinks.
 - Paragraph 7 – Dr Lake's assertion that the products are banned in some countries is based on Breda et al's 2014 paper¹⁵. It does appear that it has now been permitted for sale in Denmark and Norway.
 - Paragraph 8 - Monster Absolutely Zero appeared within a copy of “Eating Well, Living Well” a lifestyle magazine with an adult readership. It clearly states on the advert that the product is not suitable for children, which arguably reinforced our point. The British Dietetic Association has not argued that adults should not be allowed to make the free choice to consume energy drinks.

¹¹ <https://www.forbes.com/sites/davidthier/2017/08/07/destiny-2-wants-you-to-buy-pop-tarts-and-rockstar-energy-drink/#6b80b685702e>

¹² <https://supercrossthegame.com/>

¹³ <http://airrace.redbull.com/themobilegame>

¹⁴ <http://www.levelwinner.com/snowboarding-the-fourth-phase-tips-cheats-guide-to-ride-like-a-pro/>

¹⁵ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4197301/>

Supplementary written evidence submitted by the British Dietetic Association (END0026)

- Paragraph 12 – On this point, Monster Energy are incorrect. Our statement relates to EFSA scientific opinion¹⁶ about the proportion of adolescents *who consume energy drinks*, who consume three or more cans per single session. This figure stands at 24%. Their 8% figure relates to all adolescents, including those that do not consume energy drinks.
 - Paragraph 18 – Monster argue that we do not take account of cold brew or iced coffee products. The BDA does not believe these, especially where single servings have high caffeine levels, are suitable for under 16s either, so do not believe this detracts from our argument about the unsuitability of energy drinks. Equally, we do not believe hot coffee to be suitable for under-16s in large quantities, but we do not believe this is as common as energy drinks.
 - Paragraph 26 – We agree that efforts to reduce underage drinking would be positive, but the specific reason for banning sales to under 18s who go on to use energy drinks with alcohol would be because of the specific deleterious effects of combining energy drinks and alcohol, as described above and in Breda et al's paper.
 - Paragraph 27 - Monster Energy dispute the conclusion of harmful effects of combining alcohol and energy drinks. As mentioned above, Breda et al¹⁷ identify studies that do show a negative impact of the consumption of energy drinks with alcohol.
 - Paragraph 28 – Monster Energy are correct that the study was not undertaken by the American Heart Association but was instead only published in their Journal. We apologise for this mistake. However, the paper (from Fletcher et al¹⁸) did find the impacts we mention at caffeine levels equivalent to two 500ml cans of energy drink (320mg of caffeine), which we do not believe to be unreasonably high. The study found significant differences between the impact on corrected QT interval and systolic blood pressure of energy drinks compared to caffeine from a control drink.
18. While Monster Energy drinks may disagree with the evidence presented by the BDA to the committee, the fundamental point remains that these products are clearly labelled and advertised as unsuitable for consumption by children by law. The British Soft Drink Association, of which Monster Energy are a member, in their evidence to the committee made it clear that they do not believe these products should be sold to under-16s. Monster Energy are subject to the BSDA code of conduct which clearly discourages the marketing or promotion of these products to children. We therefore fail to see how Monster can argue that these drinks should continue to be sold to children under 16.

June 2018

¹⁶ <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2015.4102> (table 4, page 29)

¹⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4197301/>

¹⁸ <https://www.ncbi.nlm.nih.gov/pubmed/28446495>