Have a (Non-Energy) Drink on Me—Modifying the Laws Regarding Energy Drinks in Australia

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ABSTRACT

Energy drinks are a relatively new product that are available worldwide. They are non-alcoholic beverages that contain caffeine and may also contain carbohydrates, amino acids, vitamins, and other substances. When energy drinks are consumed, they can cause negative health repercussions, particularly upon children. This Article explains the negative health impacts that energy drinks can have upon children and it also examines the law concerning energy drinks in-depth in three key areas: taxes, advertising, and labeling. This Article is one of the few peer-reviewed journal articles to argue, from a legal perspective, that governments must ban the sale of energy drinks to children.

INTRODUCTION

Don't judge an energy drink by its cover. When looking at an energy drink, a person sees an attractively packaged beverage with enticing slogans making promises of enhanced performance. Admittedly, the companies producing these energy drinks recommend that adolescents do not consume them. Ironically, adolescents are among the group with the highest consumption rates, as data suggests that one in every two Australian adolescents consume them.[1] When looking beneath the surface and reviewing the health literature, an individual will find that in stark contrast to the cover, energy drinks can negatively affect young people in a variety of ways. It is crucial to comprehensively consider the legislation that regulates them and ensure that

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[1] Beth M. Costa et al., *Adolescent Energy Drink Consumption: An Australian Perspective*, 105 APPETITE 638, 638–42 (2016).

significant legislative action to prevent the sale of energy drinks to minors is taken so that young people will not be able to buy them. This will lower the number of young people who consume them.

There are several definitions of energy drinks. This Article will use the one found in the Australia New Zealand Food Standards Code. This Code states that they are a "formulated caffeinated beverage," which "means a non-alcoholic water-based flavored beverage which contains caffeine and may contain carbohydrates, amino acids, vitamins and other substances, including other foods, for the purpose of enhancing mental performance."[2] Examples of such beverages are Rockstar™, Monster™, and Red Bull™, Energy drinks are marketed to a young population as alternative beverages used to promote wakefulness, heighten senses of awareness, increase energy, and they claim to improve athletic performance.[3] These beverages are a popular alternative to coffee and sports drinks and are often consumed by youth looking for an energy boost or for better academic[4] or sporting performance.[5] Given the rising popularity of energy drink consumption among adolescents and children, public health officials are concerned about energy drinks, given their composition of stimulating ingredients that cause these adverse effects.[6] Among other ingredients, the main active components comprising energy drinks are caffeine, sugar, and other ingredients with stimulant effects (e.g., taurine and ephedrine).[7]

This Article will discuss the psychological and physiological impacts of energy drinks upon children and adolescents and their long-term impacts to understand why it is important to consider the legislation that permits young people to buy them. Then, it will discuss current and potential laws regarding sugar-sweetened beverages (SSBs), more specifically taxes, advertising, and labeling. Ultimately, it argues that banning the sale of energy drinks to young people is necessary to lower the number of adolescents and young people who consume energy drinks and sugar-sweetened beverages.

For clarity, sugar-sweetened beverages are carbonated, water-based, non-alcoholic beverages with added sugar providing their signature sweet taste.[8] Furthermore, there is good reason to discuss sugar-sweetened beverages in an article concerning energy drinks. There is substantial overlap between the two categories of drinks. Energy drinks typically contain large amounts of sugar similar to a sugar-sweetened

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[2] *Australia New Zealand Food Standards Code*, Standard 2.6.4. The *Code* is a legislative instrument under the Food Standards Australia New Zealand Act. *Food Standards Australia New Zealand Act 1991* (Cth.).

[3] Marco Scalese et al., *Energy Drink and Alcohol Mixed Energy Drink Use Among High School Adolescents: Association with Risk Taking Behavior, Social Characteristics*, 72 ADDICTIVE BEHAV. 93, 93 (2017).

[4] Nicole Pennington et al., *Energy Drinks: A New Health Hazard for Adolescents*, 26 J. SCH. NURSING 352, 352 (2010).

[5] Mandy Rath, *Energy Drinks: What is All the Hype? The Dangers of Energy Drink Consumption*, 24 J. AM. ACAD. NURSE PRAC. 70, 74 (2012).

[6] *See* Pennington, *supra* note 4, at 352–53; Rath, *supra* note 5, at 74.

[7] *See* Scalese, *supra* note 3, at 93; Shelina Visram et al., *Consumption of Energy Drinks By Children and Young people: A Rapid Review Examining Evidence of Physical Effects and Consumer Attitudes*, 6(10) BMJ OPEN 1, 1 (2016); Yifrah Kaminer, *Problematic Use of Energy Drinks by Adolescents*, 19(3) CHILD ADOLESCENT PSYCHIATRIC CLINICS N. AM. 643, 643 (2010).

[8] Stephen Duckett & Hal Swerissen, *A Sugary Drinks Tax: Recovering the Community Costs of Obesity* (Report, Grattan Institute, November 2016) at 32.

beverage,[9] and indeed, such energy drinks can be considered to be sugar-sweetened beverages with caffeine/stimulants. It is this presence of caffeine or other stimulants that sets energy drinks like Rockstar™ apart from sugar-sweetened beverages such as Sprite™ or Coca-Cola™. An implication of this overlap between sugar-sweetened beverages and energy drinks is that regulating the former also necessarily regulates the latter.

I. INGREDIENTS AND PHYSIOLOGICAL EFFECTS OF ENERGY DRINKS

A. Sugar

Carbohydrates are an essential source of energy for the body. There are three types of carbohydrates: sugar, starch, and fiber. The sugars found in food can be natural, such as those found in fruits, or an additive, such as those found in high-sugar breakfast cereals. Added sugars are a concern in the diet of children and adolescents; they can often displace nutritious foods;[10] provide unnecessary calories to a meal; and are associated with increased childhood health disorders such as weight gain, obesity, and malnutrition.[11] Excessive sugar consumption can cause poorer health outcomes and lead to adverse health effects with potential for long term detriment to a child.[12]

On average, energy drinks contain approximately 50g of sugar/carbohydrates[13] and 200 calories (837kJ). The high sugar and calorie content of these drinks are risk factors for childhood obesity and can lead to weight gain,[14] type 2 diabetes mellitus, and poor dental health, in addition to poor nutrition and related development.[15]

B. Caffeine

Caffeine is a stimulant that acts on the body's central nervous system (CNS) by blocking the brain's ability to receive signals to rest.[16] The result is that the body believes that it is not tired and gives the perception of increased energy and attention.[17] Although the quantity of caffeine differs among energy drink brands, doses can range from 116mg to 428mg per 355mL serving.[18] To put this into perspective, a single cup of instant coffee contains 75mg of caffeine, and a 365mL can of soft drink (e.g., Coca-

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[9] *See* Kaminer, *supra* note 7, at 644. Some energy drinks contain artificial sweeteners as well. This ancillary issue is addressed further in the Article.

[10] D. Nataša Fidler Mis et al., *Sugar in Infants, Children and Adolescents: A Position Paper of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition Committee on Nutrition*, 65 J. PEDIATRIC GASTROENTEROLOGY NUTRITION 681, 689 (2017).

[11] *Id.* at 682, 685.

[12] *Id.* at 689.

[13] *See* Kaminer, *supra* note 7, at 644.

[14] *See* Rath, *supra* note 5, at 74.

[15] *See* Pennington, *supra* note 4, at 357; *see* Rath, *supra* note 5, at 74–75; *see* Visram, *supra* note 7, at 2; Christina Mary Pollard et al., *Public Concern About the Sale of High-Caffeine Drinks to Children 12 Years or Younger: An Australian Regulatory Perspective*, BIOMED. RES. INT'L 1, 1-2 (2015).

[16] *See* Pennington, *supra* note 4, at 353.

[17] *Id.*

[18] *See* Kaminer, *supra* note 7, at 644.

Cola) contains 23mg.[19] The maximum amount of caffeine permitted in Australian energy drinks is 320mg per liter (equivalent to one cup of coffee per 250ml). However, in other countries, such as the United States, there is no prescribed caffeine limit, nor a requirement that energy drink labels report the actual level of caffeine. As a result, energy drinks in the United States are available in caffeine concentrations much higher than in Australia. For example, the United States brand "Redline Xtreme Energy Drink" contains 1336mg of caffeine per liter—four times higher than Australian energy drink caffeine limits and the equivalent of four cups of coffee per 250ml. Currently, there is no lower level of caffeine consumption that is safe for youth under the age of eighteen.[20] As per the Australian Dietary Guidelines (2013) provided by the National Health and Medical Research Council of the Australian Government, it is not recommended that adolescents and children consume high-caffeinated beverages.[21]

By acting on the CNS, caffeine can give the perception of improved performance through increasing the body's heart rate, respiratory rate, blood pressure, and amount of stimulation from external factors.[22] However, caffeine is also able to trigger different brain centers and lead to symptoms associated with the CNS such as tremors, anxiety, and even altered mental status and seizures.[23] At doses between 85-250mg, caffeine can cause the desirable effects of consumption such as reduced fatigue, increased concentration, raised energy, and heightened awareness.[24] At higher doses between 250-500mg, undesirable symptoms may occur, such as anxiety-provoking symptoms (e.g., restlessness and tremors) and sleep disturbance.[25] However, even at doses as low as 50mg, caffeine can cause adverse effects, such as gastrointestinal upset, anxiety, and altered sleep patterns. [26]

Current evidence suggests that children and adolescents are capable of experiencing similar adverse health effects as adults when consuming energy drinks.[27] As with adults, caffeine consumption affects the adolescent cardiovascular system by producing symptoms such as increased heart rate, chest pain, racing heart, and high blood pressure.[28] Additional cardiovascular symptoms produced include irregular heartbeats and abnormal heart rhythms and can contribute to the future development of cardiovascular disease in the younger population.[29] Moreover, the gastrointestinal system is affected by the stimulating properties of caffeine and can produce symptoms such as abdominal pain, abdominal cramps, nausea and vomiting, diarrhea, and heartburn.[30]

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19 *Id.*

20 *See* Pollard, *supra* note 15, at 1.

21 *Id.*

22 *See* Rath, *supra* note 5, at 72.

23 *Id.*

24 *Id.*

25 *Id.*

26 *Id.*

27 *See* Costa, *supra* note 1, at 639.

28 *See* Visram, *supra* note 7, at 5; Rath, *supra* note 5, at 75.

29 *See* Rath, *supra* note 5, at 75.

30 *Id.*

Given the high caffeine content, energy drink consumption has consistently been shown to cause adverse effects in adolescents and children. These effects include headaches, insomnia and related sleep disturbances, and mood disorders such as anxiety and juvenile depression.[31] A study by Huhtinen et al. found that Finnish adolescents aged twelve to eighteen who reported frequent energy drink consumption also reported increased incidences of headache, decreased energy, mood changes, and sleep disturbances.[32] Further studies mentioned by Visram et al. found that the occurrence of these symptoms was associated with the severity of energy drink consumption among adolescents; for example, there was evidence of a dose-response effect where higher levels of energy drink consumption were associated with more severe adverse events.[33]

A recent Australian study involving 399 adolescents aged twelve to eighteen in Victoria found that over half (fifty-three percent) experienced at least one physiological symptom with any energy drink consumption, including rapid heartbeat, stomach irritability, mood disturbances, and sleep and/or visual disturbances.[34] Additionally, a small correlation between the consumption of two standard energy drinks a day and the experience of all aforementioned physiological symptoms was observed. Other studies have produced similar findings, where common physical symptoms are temporarily elicited in adolescents and children following energy drink consumption.[35] These symptoms similarly include rapid heartbeat and fast speech, tremors, irritable stomach, mood disturbances, and visual and sleep disturbances.[36]

In children and adolescents, large amounts of caffeine consumption have been correlated with increased incidences of chronic headaches, high blood pressure, and altered sleeping habits.[37] Children and adolescents are at greater risk for caffeine intoxication—they are often novice, infrequent drinkers and are prone to drinking large amounts of caffeine at once for various reasons.[38] Excessive caffeine consumption can lead to minor symptoms such as dizziness, dehydration, and gastrointestinal disturbances.[39] However, more serious symptoms can include hallucinations; excessive bleeding; or symptoms associated with caffeine toxicity, including abnormal heart rhythms, electrolyte and glucose abnormalities, and muscle damage—which can result in emergency department admissions.[40] Over time, excessive caffeine consumption can lead to chronic gastrointestinal pain and mood disturbances, such as irritability and anxiety.[41] In rare instances, even death may occur.

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[31] Jennifer Utter et al., *Energy Drink Consumption Among New Zealand Adolescents: Associations with Mental Health, Health Risk Behaviours and Body Size*, 54(3) J. PAEDIATRICS & CHILD HEALTH 279, 279 (2018); s*ee* Costa, *supra* note 1, at 639.

[32] *See* Visram, *supra* note 7, at 19.

[33] *See id.*

[34] *See* Costa, *supra* note 1, at 639–40.

[35] *Id.* at 640.

[36] *Id.*

[37] *See* Rath, *supra* note 5, at 75.

[38] *See* Kaminer, *supra* note 7, at 646.

[39] *See* Scalese, *supra* note 3, at 94.

[40] *Id.; see* Rath, *supra* note 5, at 75.

[41] *See* Rath, *supra* note 5, at 75.

Deaths due to excessive energy drink consumption have been reported in the United States, Australia, Ireland, and Sweden.[42] The likelihood of death due to caffeine toxicity is much higher in adolescents and children with no history of caffeine intake and in those with underlying heart conditions.[43]

Children and adolescents with pre-existing health conditions may exacerbate these conditions with caffeine consumption.[44] Adolescents and children with conditions involving the cardiovascular, renal, hepatic, and endocrine systems are at an increased risk of adverse events created by caffeine consumption due to the metabolism and clearance of caffeine within the body.[45] The effects of caffeine are more pronounced in the smaller, developing bodies of children and adolescents, especially if they have not yet developed a caffeine tolerance.[46] From 2004 to 2010, there was a five-fold increase in telephone calls related to energy drink consumption to the Australian Poison Control Center by adolescents.[47] Over half (fifty-four percent) of these calls reported no other substance use, and over ten percent of these calls reported severe adverse effects such as hallucinations, seizures, and issues related to the heart.[48]

The nutritional content of energy drinks containing high quantities of sugar and caffeine are detrimental to the growth and development of children and adolescents. Numerous studies have established the potential for adverse health events from energy drink usage in this group. Given that the nutritional content of energy drinks is metabolized within the body, the physiological effects range across various body systems and lead to several adverse events.

However, because energy drinks are promoted as beverages that reduce sleep and promote mental alertness, the psychological impact must also be discussed as an area of concern for children and adolescents.

II. PSYCHOLOGICAL EFFECTS OF ENERGY DRINKS

A. Addiction, Dependence, and Withdrawal

Given the popularity of energy drinks among adolescents, the frequent consumption of these highly-caffeinated beverages can lead to tolerance development and result in an increased dependence to achieve the same result, further leading to caffeine addiction.[49] As adolescents and children have not yet developed a tolerance for frequent caffeine consumption like adults, they are more at risk of caffeine intoxication.[50] After ceasing the stimulant consumption, rebound depression and

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[42] *See* Pennington, *supra* note 4, at 353; Scalese, *supra* note 3, at 94.

[43] Jennifer L. Harris & C. R. Munsell, *Energy Drinks and Adolescents: What's the Harm?* 73(4) NUTRITION REVIEWS 247, 251 (2015).

[44] *Id.*

[45] Teena M. McGuinness & Susanne Fogger, *Update on Energy Drinks and Youth* 49(12) J. PSYCHOSOCIAL NURSING MENTAL HEALTH SERVICES 17, 18 (2011).

[46] *Id.*

[47] *Id*.

[48] *Id*.

[49] Costa et al., *supra* note 1, at 639; Mandy Rath, *supra* note 5, at 72.

[50] Pennington et al., *supra* note 4, at 353.

fatigue may occur.[51] Studies have found several behavioral correlations with the amount of caffeine consumed, such as learning difficulties, motor tics, irritability, and mood disorders.[52] These mood deviations are likely attributed to the fluctuations in blood sugar levels in adolescents and children with regular consumption, leading to more aggressive behavior and mood deviations.[53] Additionally, energy drink consumption has been associated with sleep disturbances, including insomnia and resultant daytime sleepiness.[54] Energy drinks enable consumers to drink large quantities of caffeine in a relatively small number of servings, which over time could lead to caffeine addiction. The World Health Organization defines caffeine addiction (or "Caffeine Dependence Syndrome") as a cluster of behavioral, cognitive, and physiological phenomena that develop after repeated caffeine use and which typically includes a strong desire to consume caffeine, difficulties in controlling caffeine use, persisting in caffeine use despite harmful consequences, a higher priority given to caffeine use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.[55] Caffeine addiction has been associated with poor outcomes of mental health and well-being in a study of high school students.[56] Specifically, these students were at greater risk of severe stress, long term depression, and poor health in general.[57] Male students were at greater risk of alcohol and drug abuse problems, whereas female students were at greater risk of adverse health outcomes.[58] Other studies looking at the relationship between energy drink consumption and behavioral issues found that consumption of energy drinks is likely associated with problem behavior disorders among adolescents.[59] The consumption of energy drinks among adolescents has been found to increase the likelihood of accidents or alcohol dependence development.[60] The consumption of energy drinks among adolescents and children has been suggested as a gateway substance to other types of drug use.[61]

Caffeine withdrawal has been identified and reported in adolescents and children.[62] Medical professionals define withdrawal under current DSM-V criteria as an experience occurring from the cessation of prolonged daily use of a substance.[63]

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[51] Rath, *supra* note 5, at 74.

[52] *Id.* at 75.

[53] Holubcikova et al., *Regular Energy Drink Consumption Is Associated with the Risk of Health and Behavioral Problems in Adolescents*, 176(5) EUR. J. PEDIATRICS 599, 603 (2017).

[54] Kaminer, *supra* note 7, at 646.

[55] Steven E. Meredith et al., *Caffeine Use Disorder: A Comprehensive Review and Research Agend*a, 3(3) J. CAFFEINE RES. 114, 116 (2013).

[56] Pennington et al., *supra* note 4, at 355.

[57] *Id.*

[58] *Id.*

[59] *Id.*

[60] *Id.*

[61] Holubcikova et al., *supra* note 53, at 600.

[62] Kaminer, *supra* note 7, at 646.

[63] *Id.* The DSM-V criteria are established by the American Psychiatric Association and published in the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V). DSM-V is the authoritative source for the definition and classification of mental disorders; it is used by practitioners for diagnosis, treatment, and research. *Diagnostic and Statistical Manual of Mental Disorders (DSM-V),*

Additionally, these symptoms must cause distress or impaired functioning in the individual to meet the criteria.[64] Common symptoms experienced include headaches, fatigue, mood disturbances, and/or nausea and vomiting.[65] These withdrawal symptoms peak at forty-eight hours[66] and have been associated with decreased attention and reaction time in students and may last up to one week after caffeine cessation.[67]

Although not as frequently encountered, adolescent patients with undiagnosed psychiatric conditions, such as bipolar disorder, may have their manic phases exacerbated through the use of highly caffeinated beverages such as energy drinks.[68] In children with undiagnosed or uncontrolled psychiatric conditions, excessive caffeination can result in psychomotor agitation and hypervigilance.[69]

B. Impact on Learning

Another impact of the consumption of energy drinks involves the learning capabilities amongst adolescents and children. One study found that adolescents were more likely to score positively for traits of hyperactivity and/or inattention at any given amount of consumption compared to adolescents who did not consume energy drinks.[70] An additional study looking at caffeine consumption in children aged nine to eleven found that chronic caffeine consumers performed poorly on a cognitive test compared to non-consumers.[71] Further results from this study established that children likely derive almost no benefit from caffeine consumption, but chronic caffeine consumption is used to avoid subsequent withdrawal symptoms.[72] Overall, chronic energy drink consumption in adolescents has been associated with poor lifestyle habits including drug and alcohol use, videogame usage, altered sleep patterns, poor nutritional intake, and unsafe lifestyle choices (e.g., seat belt omission).[73] One study found that adolescents reporting regular energy drink use were also associated with poorer academic achievement, poor school attendance, and violence with bullying behavior.[74]

C. Comorbidity and Substance Use

Several studies have found the consumption of energy drinks to be positively associated with risk-taking behaviors, such as drug and alcohol use and sensation-

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AMERICAN PSYCHIATRIC ASSOCIATION, https://www.psychiatry.org/psychiatrists/practice/dsm [https://perma.cc/X4FD-VKT6].

64 *Id.*

65 *Id.*

66 McGuinness & Fogger, *supra* note 45, at 18.

67 Harris & Munsell, *supra* note 43, at 250.

68 Rath, *supra* note 5, at 75.

69 *Id.*

70 Deborah L. Schwartz et al., *Energy Drinks and Youth Self-Reported Hyperactivity/Inattention Symptoms*, 15(3) ACAD. PEDIATRICS 297, 302 (2015). Schwartz found a positive independent correlation between consumption and hyperactivity in adolescents.

71 Pennington et al., *supra* note 4, at 356.

72 *Id.*

73 *Id.*

74 Holubcikova et al., *supra* note 53, at 602.

seeking behavior in adolescents.[75] Energy drinks are commonly mixed with alcohol by adolescents during social events.[76] One longitudinal study found that the frequency of energy drink consumption in adolescents was a predictor of increased alcohol use sixteen months afterward, especially in the absence of parental monitoring.[77] These findings have yet to be replicated within Australia, but these associations are thought to be comparable among Australian adolescents and children given similar availability and popularity to other Western countries.[78]

Results from various studies have found that adolescent energy drink consumers are at risk of consuming other stimulant substances, such as nicotine and cocaine.[79] Additionally, there exists a positive correlation between adolescent energy drink consumers and marijuana usage.[80] Several other studies have established a strong association between energy drink use in adolescents and the increased likelihood of alcohol and substance abuse and binge drinking behavior.[81]

D. Risk-Taking Behavior

In addition to the use of comorbid substances, adolescents who consume energy drinks have been found to be associated with other risk-taking behaviors. Positive associations have been linked between adolescent energy drink consumers and sexual intercourse without protection and increased physical aggressiveness.[82] Other studies have found correlations between adolescent energy drink consumers and seat belt omission.[83]

Additional behavioral disorders associated with adolescent energy drink consumption include sensation-seeking and self-destructiveness, inappropriate behavioral regulation and cognitive skill development, increased sedentary behavior, and decreased physical activity.[84] More serious behavioral disorders associated with adolescent and child energy drink usage include conduct disorder, delinquency, and inclination for violence.[85]

One study in New Zealand of secondary school students showed that as the frequency of energy drink consumption increased, so did the likelihood of engaging in risky behaviors related to health.[86] These health risk behaviors included disordered eating and binge drinking behavior, unsafe motor vehicle use, unsafe sexual practices, and regular smoking.[87]

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[75] Costa et al., *supra* note 1, at 639.

[76] Scalese et al., *supra* note 3, at 94.

[77] *Id.* at 97; Costa et al., *supra* note 1, at 639.

[78] Costa et al., *supra* note 1, at 639.

[79] Scalese et al., *supra* note 3, at 97.

[80] *Id.*

[81] *Id.*

[82] *Id.* at 98.

[83] Yifrah Kaminer, *supra* note 7, at 645.

[84] Shelina Visram et al., *supra* note 6, at 17; Holubcikova et al., *supra* note 53, at 602.

[85] Harris & Munsell, *supra* note 43, at 251; Holubcikova et al., *supra* note 53, at 602.

[86] *Id.*

[87] *Id.* at 282.

III. LONG TERM EFFECTS OF ENERGY DRINKS

The long-term effects of regular energy drink consumption in adolescence have not yet been established.[88] However, given the composition of energy drinks containing high caffeine, sugar, and caloric content, the recommendations of adequate nutrition by the Australian Dietary Guidelines may be compromised and lead to adverse (psychological and physical) health effects with potential for long-term detriment to children.[89] As nutrition and sleep are two essential components that aid in brain development, the consumption of caffeine may disturb this process; thus, the effects of inadequate nutrition and sleep may have an overall negative effect on the growth of an adolescent.[90]

From this brief overview of energy drinks and their impact on the physiological and psychological effects on the growing adolescent, it is clear that these have a negative impact on the health of children and adolescents. As such, this Article will now consider a few of the significant areas of legislation in this area that may help to lower the number of children and adolescents who consume these products: taxation, restrictions on advertising, and labeling requirements.

IV. ENERGY DRINK REGULATION: DOMESTIC AND INTERNATIONAL

Regulation of energy drinks can be and has been achieved by regulating the broader category of sugar-sweetened beverages.[91] This Part comprehensively reviews the extant global regulation of sugar-sweetened beverages, including energy drinks. For the purposes of this analysis, the Article focuses exclusively on government regulation.[92]

The Article omits detailed discussion on self-regulation due to its inefficacy in this policy area. This is consistent with Australia's experience with voluntary industry codes of conduct in other industries. For instance, the Australian Government allows the food and advertising industries to set their own rules for marketing unhealthy food to children. This is done through a complex system of self-regulatory codes. In

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88 Costa et al., *supra* note 1, at 639.

89 *See id.*

90 Schwartz et al., *supra* note 70, at 302; Costa et al., *supra* note 1, at 639.

91 The definition of SSBs was given above. *See* Duckett & Swerissen, *supra* note 8, at 32 (energy drinks are typically sugar-sweetened); Bao Vuong, "Soft Drink Manufacturing in Australia" (Industry Report C1211A, IBISWorld, May 2018) 12. In 2017–2018, energy drinks were a $117 million industry in Australia, accounting for approximately 2.5% of the $4.7 billion Australian "soft drink" industry. *See id.* Unless otherwise noted, all dollar figures listed throughout are Australian dollars.

92 The author consciously omits discussion of industry self-regulation because it has proven to be ineffective in mitigating obesity in Australia and overseas. *See, e.g.*, Jenny C. Kaldor et al., *Government Action on Diabetes Prevention: Time to Try Something New*, 202(11) MED. J. AUST. 578, 579 (2015); LiveLighter WA, Submission No 88 to Select Committee into the Obesity Epidemic in Australia (July 5, 2018), 8; Kendrin R. Sonneville et al., *BMI and Healthcare Cost Impact of Eliminating Tax Subsidy for Advertising Unhealthy Food to Youth*, 49 AM. J. PREVENTIVE MED. 124, 125 (2015); Katrin Schaller & Ute Mons, *Tax on Sugar Sweetened Beverages and Influence of the Industry to Prevent Regulation*, 2 ERNÄHRUNGS UMSCHAU 34, 37–38 (2018); Kim D. Raine et al., *Restricting Marketing to Children: Consensus on Policy Interventions to Address Obesity*, 34 J. PUB. HEALTH POL. 239, 245 (2013); Mario Mazzocchi, *Ex-Post Evidence on the Effectiveness of Policies Targeted at Promoting Healthier Diets*, Food and Agriculture Organization of the United Nations, TRADE POL. TECHNICAL NOTES 19, 3–5 (Nov. 2017).

practice, this self-regulation has not protected children from unhealthy food marketing; Australian research shows that there was no reduction in the rate of unhealthy food marketing to children between 2011 (following the introduction of the food industry codes) and 2015, including by the code signatories.[93]

Jurisdictions around the world, both national and sub-national, have grappled with regulating energy drinks/sugar-sweetened beverages.[94] They use diverse regulatory approaches through both legislation, and legislative instruments or equivalents (e.g., statutory rules or executive orders).[95] Even where different jurisdictions have used the same approach, each jurisdiction differs on material particulars. This review reveals that the regulation of energy drinks/sugar-sweetened beverages is increasingly similar to the regulation of tobacco and alcohol.[96] In particular, the Article explores the following:[97] 1) sugar-sweetened beverage taxation; 2) energy drink/sugar-sweetened beverage advertising restrictions; and 3) energy drink/sugar-sweetened beverage food-labeling requirements.

In exploring each of these options, the Article explains what each entails, prior evidence of efficacy, survey their prior or potential implementation in Australia, and how they fit (or would fit) in Australia's legal and economic context.

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[93] Wendy L. Watson et al., *Advertising to Children Initiatives Have Not Reduced Unhealthy Food Advertising on Australian Television*, J. PUB. HEALTH 787–92 (2017).

[94] "Energy drink/sugar-sweetened beverage" should be interpreted as referring to an energy drink that is also an SSB (i.e., a sugar-sweetened energy drink).

[95] "Legislative instrument" is an Australian term referring to laws made by the executive branch. Such laws are made under enabling legislation. *See Legislation Act 2003* (Cth) s 8. In other jurisdictions, the equivalent executive regulations may be called statutory rules or executive orders. For clarity, the use of the term "regulation" in this Article does not denote *executive* regulation; rather, the term is used in its more general dictionary sense.

[96] Alexandra Wright et al., *Policy Lessons from Health Taxes: A Systematic Review of Empirical Studies*, 17 BMC PUB. HEALTH 583, 1 (2017), https://bmcpublichealth.biomedcentral.com/track/pdf/10.1186/s12889-017-4497-z [https://perma.cc/PC25-A6FK].

[97] The Article's review is limited to these measures on the basis that these measures can be implemented at a national level in Australia (i.e., by the federal government); have precedent in Australia's regulation of alcohol, tobacco, and therapeutic goods; and also feature most prominently in the literature in the author's opinion. For a further exposition on the powers and limitations on Australia's federal and state governments to fight obesity, see Jacqueline Lau et al., *Obesity Prevention Laws and the Australian Constitution*, 25 J. LAW MED. 248 (2017). Specifically, state governments are prohibited from imposing excise taxes and are limited in their power to regulate food advertising and labeling. In contrast, the federal government is empowered to take such actions. However, there are regulatory measures that can and have been taken by state and local governments. *See generally* Global Obesity Centre, *Policies for Tackling Obesity and Creating Healthier Environments: Scorecard and Priority Recommendations for Australian Governments* (Feb. 2017), https://www.heartfoundation.org.au/images/uploads/publications/OVERALL_Food_EPI_Report_v3.pdf; Australian Local Government Association, Submission No 121 to Select Committee into the Obesity Epidemic in Australia, 11 July 2018. For instance, state governments can restrict physical advertising (e.g., signage and billboards) and control what food is provided on government facilities. *See, e.g.*, Jerril Rechter, *Sweet on Drinks Ban*, CEO Opinion Piece, VICTORIAN HEALTH PROMOTION FOUND. (Oct. 4, 2017), https://www.vichealth.vic.gov.au/media-and-resources/opinion-pieces/sweet-on-drinks-ban.

A. Taxation

1. Introduction

Public health experts frequently identify sugar-sweetened beverage taxes as an effective regulation for improving a population's health.[98] Indeed, the World Health Organization (WHO) has recommended that all countries implement national sugar-sweetened beverage taxes to combat obesity.[99]

To clarify what "sugar-sweetened beverage tax" means, the term refers to a tax on the production, distribution, or sale of sugar-sweetened beverages. Further, these are taxes that apply over and above more general sales taxes, such as value-added tax (VAT) in several U.S. states. This is a broad definition. The typology of a sugar-sweetened beverage tax depends upon: 1) the incidence of the tax (e.g., who pays the tax); 2) the structure of the tax (e.g., the formula for calculating the amount of tax payable); and 3) the tax base (e.g., what goods are subject to the tax).[100]

A sugar-sweetened beverage tax is a "sin tax," much like Australia's excise taxes on alcohol and tobacco.[101] The economic rationale for sugar-sweetened beverage taxation (like other sin taxation) is that it causes a market-optimizing increase in the price of sugar-sweetened beverages to reflect their social cost. In turn, this reduces sugar-sweetened beverage manufacturing, retailing, and, ultimately, consumption.[102] Further, sugar-sweetened beverage taxes incentivize sugar-sweetened beverage manufacturers to reformulate their products to be healthier to minimize the tax payable[103] and signal to consumers that sugar-sweetened beverages are deleterious.[104]

The efficacy of a sugar-sweetened beverage tax is enhanced by the reality that energy drinks are non-essentials. Their non-essentiality means that consumer demand

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[98] J. Lennert Veerman et al., *The Impact of a Tax on Sugar-Sweetened Beverages on Health and Health Care Costs: A Modelling Study*, 11(4) PLOS ONE 1, 7–8 (Apr. 13, 2016), doi:10.1371/journal.pone.0151460; Anita Lal et al., *Modelled Health Benefits of a Sugar-Sweetened Beverage Tax Across Different Socioeconomic Groups in Australia: A Cost-Effectiveness and Equity Analysis*, 14(6) PLOS MED. e1002326, 3 (2017); World Health Organization, *Fiscal Policies for Diet and Prevention of Noncommunicable Diseases: Technical Meeting Report, 5-6 May 2015, Geneva, Switzerland* 10–11 (2016) [hereinafter World Health Organization, *Fiscal Policies*]. For the author's purposes, general "junk food" taxes can be considered SSB-only taxes, given they have the same goal and SSBs are subject to both. The literature has not stressed the differences between the two and discussed both types of taxes as the same species. *See* Schaller & Mons, *supra* note 92, at 36; Veerman et al., *supra* note 98, at 1–2.

[99] *Id.* at 2 n.2.

[100] World Health Organization, *Fiscal Policies*, *supra* note 98, at 19.

[101] *See* Wright et al., *supra* note 96, at 2.

[102] "Economists agree that government intervention in a market is warranted when there are 'market failures' that result in less-than-optimal production and consumption . . . . [F]inancial 'externalities' exist in the market for sugar-sweetened beverages in that consumers do not bear the full costs of their consumption decisions. Because of the contribution of the consumption of sugar-sweetened beverages to obesity, as well as the health consequences that are independent of weight, the consumption of sugar-sweetened beverages generates excess health care costs." Kelly D. Brownell et al., *The Public Health and Economic Benefits of Taxing Sugar-Sweetened Beverages*, 361 NEW ENG. J. MED. 1599, 1601–02 (2009); s*ee also* Wright et al., *supra* note 96, at 2; Schaller & Mons, *supra* note 92, at 36; Duckett et al., *supra* note 8, at 3; Lal et al., *supra* note 98, at 3.

[103] Wright et al., *supra* note 96, at 8–9;World Health Organization, *supra* note 98, at 12–19; Schaller & Mons, *supra* note 92, at 36; Brownell et al., *supra* note 102, at 160; Duckett et al., *supra* note 8, at 33 n.131.

[104] *Id.* at 40.

responds significantly and negatively to price increases. This is unsurprising, as this is a characteristic of non-essential foods.[105]

Separately, the revenue from a sugar-sweetened beverage tax can be spent in ways that improve the populace's health. This can be done by "earmarking" the sugar-sweetened beverage tax revenue for health-improving policies. [106] Such policies could be subsidizing healthy food, children's sport, or public education.[107]

For tax incidence, a sugar-sweetened beverage tax can be an excise tax (e.g., levied on the manufacturers or wholesalers of sugar-sweetened beverages).[108] Alternatively, a sugar-sweetened beverage tax can be a sales tax, which the consumer pays at the point of sale.[109] In either case, an equivalent tariff on (the moderate number of)[110] imported sugar-sweetened beverages would need to be implemented to increase the price of imported sugar-sweetened beverages as well.[111]

For tax structure, a sugar-sweetened beverage tax could be a valoric tax[112] or a volumetric tax.[113] A valoric tax is a tax where the tax payable is purely proportional to the value of a product (e.g., twenty percent of the retail price).[114] In contrast,

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[105]The products' demand is significantly affected by household income. Indeed, the products are considered to be discretionary consumer items by analysts. Vuong, *supra* note 91, at 4–5.

[106]Schaller & Mons, *supra* note 92, at 36; LIVELIGHTER WA, *supra* note 92, at 9; World Health Organization, *supra* note 98, at 5.

[107]*See* Kathryn Backholer et al., *Have We Reached a Tipping Point for Sugar-Sweetened Beverage Taxes?* 19 PUB. HEALTH NUTRITION 3057 (2016). The literature suggests that subsidizing healthy food is the most efficient use of SSB tax revenue for achieving public health goals. *See* Wright et al., *supra* note 96, at 8, 13; Linda J. Cobiac et al., *Taxes and Subsidies for Improving Diet and Population Health in Australia: A Cost-Effectiveness Modelling Study*, 14(2) PLOS MED. E100223 1–2 (Feb. 14, 2017).

[108]World Health Organization, *supra* note 98, at 19.

[109]*Id*.

[110]Vuong, *supra* note 91, at 5.

[111]An excise-equivalent SSB tariff would need to be implemented alongside an SSB excise tax (similar to Australia's excise-equivalent tariff on alcohol) to ensure imported SSBs rise similarly in price. *See* Ana Mendez Lopez et al., *Is Trade Liberalisation a Vector for the Spread of Sugar-Sweetened Beverages? A Cross-National Longitudinal Analysis of 44 Low- and Middle-Income Countries*, 172 SOC. SCI. MED. 21 (2017); Parliamentary Budget Office, *Alcohol Taxation in Australia*, Report, COMMONWEALTH OF AUSTRALIA 2–3 (2015). The author notes that heavy SSB tariffs have been implemented in several Gulf states and potentially conflict with World Trade Organization (WTO) obligations. *See Common Excise Tax Agreement of the States of the Gulf Cooperation Council (GCC)*, signed 27 November 2016, art 3(1); World Trade Organization, *Members Raise Concerns over US Section 232 Investigation on Automobiles and Automotive Parts*, WTO NEWS AND EVENTS ONLINE (July 3, 2018), https://www.wto.org/english/news_e/news18_e/good_03jul18_e.htm ("[At the July 2018 Council for Trade in Goods Committee meeting,] [t]he European Union, Switzerland and the US complained about the implementation by the Gulf Cooperation Council (GCC) countries of a 100 percent *ad valorem* excise duty on energy drinks and a 50 percent *ad valorem* duty on other carbonated drinks. They said that there is no rationale for applying duties on these products, and no indication that the measures would be modified to make them consistent with the WTO . . . . Saudi Arabia said that the tax aims to protect human health and the environment and is not intended to protect the local industry.").

[112]Veerman et al., *supra* note 98, at 7. These have also been referred to as *ad valorem* taxes. *See* World Health Organization, *supra* note 98, at 19. They have also been referred to as value added taxes. *See* Brownell et al., *supra* note 102.

[113]Veerman et al., *supra* note 98, at 8. These have also been referred to as specific taxes, as the tax payable is related specifically to the amount of a given ingredient (e.g., tobacco or sugar). *See* World Health Organization, *supra* note 98, at 19.

[114]*Id*.

volumetric tax is where the tax payable is fixed at a rate per unit of volume of an ingredient (e.g., $X per gram of sugar).[115]

2. International Implementation and Evidence

Sugar-sweetened beverage taxes have been implemented in national jurisdictions around the world including Belgium, Chile, France, Finland, Mexico, and Hungary, and most were implemented in the past decade.[116]

i. Case Study: Mexico

In January 2014, Mexico implemented an excise tax of one peso per non-alcoholic beverage with added sugar (powder, concentrates, or ready-to-drink), excluding milk-based beverages.[117] Practically, this tax caused a sugar-sweetened beverage price increase of about ten percent, which was paid by the producer and represented a price increase of about ten percent.[118] This tax was introduced to reduce the negative health and economic effects of sugar-sweetened beverage consumption, namely its contribution to overweight and obesity.[119]

The sugar-sweetened beverage tax in Mexico appears to have been successful, according to a study by the Mexican Public Health Institute and the University of North Carolina. This study modeled the projected sold volume of sugar-sweetened beverages in Mexico for 2014 in a no-sugar-sweetened beverage-tax scenario and compared this projection with the actual sales data. The study concluded that the actual sold volume of taxed sugar-sweetened beverages was twelve percent lower than the projection in that year.[120]

ii. Case Study: Hungary

Hungary has introduced a "Public Health Product Tax" (PHPT), effective September 1, 2011.[121] The PHPT is a volumetric excise tax on sugar, salt, and methylxanthine in products that meet certain thresholds. The aims of the PHPT are: 1) to encourage healthier eating habits by consumers; 2) to encourage reformulation by manufacturers; and 3) to increase revenues for public health policies.[122]

For sugar-sweetened beverages in particular, the tax grouped them into several categories depending on their contents, with a different tax rate for each category.[123]

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[115]Veerman et al., *supra* note 98, at 8; World Health Organization, *supra* note 98, at 19.

[116]*See generally* Mazzocchi, supra note 92, at 12; *NOURISHING Database*, WORLD CANCER RESEARCH FUND INTERNATIONAL, https://www.wcrf.org/int/policy/nourishing-database [https://perma.cc/3BU7-F5BR]; Backholer et al., *supra* note 107.

[117]World Health Organization, *supra* note 98, at 16.

[118]*Id.*; Backholer et al., *supra* note 107, at 3057.

[119]World Health Organization, *supra* note 98, at 16.

[120]Backholer et al., *supra* note 107, at 3057; World Health Organization, *supra* note 98, at 15-16.

[121]*See* ECSIP Consortium, *Food Taxes and Their Impact on Competitiveness in the Agri-Food Sector: Annexes to the Main Report*, ANNEXURE 211–24 (2014), https://ec.europa.eu/growth/content/food-taxes-and-their-impact-competitiveness-agri-food-sector-study-0_en; World Health Organization, *supra* note 98, at 15–16.

[122]ECSIP Consortium, *supra* note 121, at 211; World Health Organization, *supra* note 98, at 15–16.

[123]The first category is syrups/concentrates sold to consumers for the making of soft drinks with added sugar content exceeding 8 g per 100 ml. These are taxed at 200 HUF per liter of sugar. The second category is any SSB with added sugar content exceeding 8 g per 100 ml. These are taxed at 7 HUF per liter. The tax

The tax had a significant impact on the price of the impacted products. According to a 2013 government impact assessment, products subject to the PHPT increased in price by twenty-seven percent on average.[124] However, a private-sector study in 2013 cast doubt on whether the PHPT was the sole or primary cause of this study. According to this second study, which sought input from manufacturers, the PHPT caused only ten percent to thirty percent of this price increase.[125]

The Hungarian government's first impact assessment in 2013 found that twenty-six to thirty-two percent of the surveyed Hungarians had decreased consumption of PHPT-subject products.

Price increases were the most frequently cited reason for decreased consumption of PHPT-subject beverages, accounting for between sixty and seventy percent of the observed drop in consumption.

The second most frequently cited reason was the harmful effect of such drinks on health. Moreover, the impact assessment reported that: 1) forty percent of the manufacturers surveyed had reformulated their products; 2) thirty percent totally removed the taxed ingredients in their products; and 3) seventy percent had decreased the quantity of taxed ingredients in their products.[126]

Further, the follow-up 2014 impact assessment found that fifty-nine to seventy-three percent of consumers consumed less PHPT-subject products than they had in previous years, suggesting a sustained reduction in consumption due to the tax.

3. Implementation and Evidence in Australia

Australia currently has no sugar-sweetened beverage tax or other broad-based "junk food" tax. Despite this, it is worth noting that sugar-sweetened beverages are not exempted from Australia's Goods and Services Tax (GST) like other beverages.[127] However, Australia has a low but relevant protectionist import tariff of five percent on soft drinks, cordials, and syrups.[128] Further, this tariff alone cannot achieve significant public health outcomes for three reasons. First, imports account for only a moderate amount of sugar-sweetened beverage consumption in Australia due to high shipping costs. Second, the vast majority of soft drinks (i.e., sugar-sweetened beverages) imported to Australia are exempt from this tariff due to free trade agreements in the

exempted drinks with more than twenty-five percent fruit or vegetable content, products produced with at least fifty percent of milk-based raw material, and syrups in line with the Codex Alimentarius Hungaricus. *See* ECSIP Consortium, *supra* note 121, at 213.

[124]*Id.* at 216.

[125]*Id.* at 218–19.

[126]World Health Organization, *supra* note 98, at 16.

[127]In Australia, beverages are subject to GST except for express exceptions (milk, water, tea, coffee, fruit/vegetable juices, infant/invalid beverages). *See A New Tax System (Goods and Services Tax) Act 1999* (Cth) s 38-3(1)(d), sch 2; Duckett et al., *supra* note 8, at 25 n.82. This is an improvement over equivalent taxes in the United States, which exempt SSBs as food items. *See* Jennifer L. Pomeranz, *Advanced Policy Options to Regulate Sugar-Sweetened Beverages to Support Public Health*, 33 J. PUB. HEALTH POL. 75, 82 (2012); Brownell et al., *supra* note 102, at 159.

[128]Vuong, *supra* note 91, at 28. This tariff may appear to be a sugar-sweetened beverage tax of the kind proposed in this Article, but in this instance, appearances are deceiving. This tariff is a minor protectionist tariff rather than a tax aimed at improving health. *Id*. Also note that the rate is four percent for imports from developing countries to encourage their economic development. *Id.*

Asia-Pacific. [129] Third, and more generally, taxes for the purpose of protectionism or revenue-raising are not adapted to improving public health outcomes. [130]

Any sugar-sweetened beverage tax (and equivalent tariff) can be implemented only at a federal level in Australia. This is because the Australian Constitution contains a provision that excise (and surreptitious "license fee" taxes)[131] can only be implemented by the federal government.[132]

Indeed, the federal government has a long history of implementing tobacco and alcohol taxes.[133] In this regard, the states and territories of Australia are handicapped in a way that the states and territories of the United States are not, given that the U.S. has no equivalent constitutional provision. Indeed, many U.S. states and cities have imposed excise taxes.[134]

Several Australian studies have modeled federal sugar-sweetened beverage and more general junk food taxes in Australia and concluded that it would be a cost-effective policy for improving Australians' health, with volumetric excise taxes on sugar or sugar-sweetened beverages being the most effective. Appendix 1 contains a table that lists the author's surveyed studies. [135]

Finally, excise taxes are known to have a signaling effect, informing consumers that the product has adverse consequences of some kind.[136] Further, a sugar-sweetened beverage tax has the potential to educate the public about the health dangers of sugar-sweetened beverages. Generally speaking, educating Australians to make better decisions, ignoring how this may be accomplished, is a worthwhile endeavor. This fact has recently entered public discussion in a different context, as the Australian Securities and Investments Commission (ASIC) and Reserve Bank of Australia (RBA) have recommended improving financial literacy in high school, as this empowers Australians to have stronger bargaining positions and make more informed decisions concerning personal finance.[137]

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[129]In the financial year ending on June 30, 2018, at least 81.7% of sugar-sweetened beverages imported to Australia were exempt from this tariff. *See id.* at 15, 28. This is because of free trade agreements with the major exporting countries, namely New Zealand, China, and Japan. *See id*.

[130]Wright et al., *supra* note 96, at 8, 12.

[131]*Ha v New South Wales* (1997) 189 CLR 465 (Austl.).

[132]Constitution s 86 prohibits state excise taxes, which are any taxes on the production, manufacture, sale, or distribution of goods; this has been interpreted broadly by the High Court of Australia to prevent states levying excise taxes of any kind. *See Ha*, 189 CLR 465.

[133]*See* Parliamentary Budget Office, *Alcohol Taxation in Australia* 1–2, 9 (Commonwealth of Australia, 2015); Parliamentary Budget Office, *Trends Affecting the Sustainability of Commonwealth Taxes* 10-7 (Commonwealth of Australia, 2018). The federal government currently administers excise taxes via the Excise Tariff Act 1921, which imposes excisable goods "manufactured or produced" in Australia (broadly defined to include creation, modification, and improvement of goods). *See* Australian Taxation Office, *Excise: The Meaning of the Expression "Manufactured or Produced" for the Purposes of the Excise Acts*, ER 2012/1, [14]–[25] (2014).

[134]Wright et al., *supra* note 96, at 8–9.

[135]For other Australian studies, see Duckett et al., *supra* note 8, at 46.

[136]*Id*. at 40.

[137]ABC News Breakfast, *Alcohol Consumption Hits 55-Year Low—And Your Stories Explain Why*, ABC NEWS (Sept. 4, 2018), https://www.abc.net.au/news/2018-09-04/alcohol-consumption-hits-55-year-low-your-stories-explain-why/10198554 [https://perma.cc/P8FC-SKEB].

As of writing, the federal government and opposition have rejected calls for a sugar-sweetened beverage tax.[138] However, the Western Australian government has expressed support for such a policy.[139]

Despite the lack of support from Australia's major political parties, a sugar-sweetened beverage tax is electorally palatable because there is significant public support for regulation of sugar-sweetened beverages, including the introduction of a sugar-sweetened beverage tax.[140] When Australians are surveyed, researchers have found that there is broad support for such a tax, especially when the tax revenues are earmarked for a public health purpose. For example, a recent survey in Western Australia found that fifty-seven percent of respondents supported a sugar-sweetened beverage tax, and sixty percent favored restricting the sale of sugar-sweetened beverages in government facilities.[141] Further, support is particularly strong among younger Australians. A recent survey (of 1,793 young people) from Deakin University found that the majority of eighteen- to thirty-year-olds support a sugar-sweetened beverage tax. More specifically, forty-eight percent supported taxes alone, seventy-two percent supported taxes that raised revenue for community exercise facilities, and seventy-four percent supported a tax if it was used to subsidize fruit and vegetables.[142] Perhaps not coincidentally, young Australians are relatively health-conscious (akin to overseas youth populations).[143] One implication of these surveys is that the popularity of a sugar-sweetened beverage tax depends on whether the revenue is earmarked or not; policymakers should take note.

4. Why Australia Should Have a Sugar-Sweetened Beverage Tax

Australia can implement a sugar-sweetened beverage tax to regulate these beverages generally, but doing so will also regulate energy drinks by virtue of their high added sugar.

According to the literature, sugar-sweetened beverage taxation is a cost-effective tool for yielding modest but significant health improvements.[144] Indeed, a Food and

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[138]Dominica Sanda, *Labor, Coalition Reject a Tax on Sugary Drinks*, THE NEW DAILY (Jan. 7, 2018), https://thenewdaily.com.au/news/national/2018/01/07/labor-coalition-reject-sugary-drink-tax/ [https://perma.cc/GST5-KX5A].

[139]Government of Western Australia, *Submission No 120 to Select Committee into the Obesity Epidemic in Australia*, 3–4 10 (2018).

[140]Emma Sainsbury et al., *Public Support for Government Regulatory Interventions for Overweight and Obesity in Australia*, 18(1) BMC PUB. HEALTH (2018).

[141]Cathy O'Leary, *Tax on Sugary Drinks Backed by More than Half of West Australians*, THE WEST AUSTRALIAN (Oct. 29, 2018), https://thewest.com.au/news/public-health/tax-on-sugary-drinks-backed-by-more-than-half-of-west-australians-ng-b88991927z [https://perma.cc/NMM7-KC7B].

[142]AAP, *Sugar Tax Wins Support from Young Aussies*' SBS NEWS, (Dec. 14, 2018), https://www.sbs.com.au/news/sugar-tax-wins-support-from-young-aussies [https://perma.cc/X82B-22G6]; *see also* Tom E. Richardson et al., *What Young Australians Think about a Tax on Sugar-Sweetened Beverages*, 43(1) AUSTRALIAN AND NEW ZEALAND J. OF PUB. HEALTH 63 (2019).

[143]This conscious action has also driven down the sales of SSBs in Australia since the 1990s. *See* Australian Beverages Council, *Submission No 22 to Select Committee into the Obesity Epidemic in Australia*, 32–36 (2018).

[144]Wright et al., *supra* note 96, at 7. Separately, evidence and economic theory suggest that removing Australia's tax subsidies for SSB advertising would also have public health benefits. *See* Sonneville et al., *supra* note 92, at 124; J. Lennert Veerman et al., *The Impact of a Tax on Sugar-Sweetened Beverages on Health and Health Care Costs: A Modelling Study*, 11(4) PLOS ONE E0151460 (2016); World Health Organization, *Fiscal Policies*, *supra* note 98, at 13.

Agriculture Organization review of healthy-diet policies recently stated that sugar-sweetened beverage taxes have "suggestive/strong" evidence in support of their efficacy.[145]A sugar-sweetened beverage tax may be effective to decrease the number of energy drinks bought and sold to children and adults alike.

The literature has strong agreement on what typology of sugar-sweetened beverage tax is most effective for achieving public health goals. First, any sugar-sweetened beverage tax should be national, or otherwise cover a wide geographical area. This is because sugar-sweetened beverage taxes with limited geographical coverage are less effective, as consumers shop elsewhere to purchase sugar-sweetened beverages without the tax.[146] In Australia, a sugar tax must be national, as the Australian Constitution only permits excise taxes that are: 1) imposed by the federal government; 2) apply on a national scale; and 3) are at least nominally indiscriminate between the states and territories.[147]

Moreover, sugar-sweetened beverage manufacturing is highly concentrated in New South Wales (36.4%), Victoria (22.2%), and Queensland (20.7%), so a sugar-sweetened beverage excise tax would disproportionately impact these three states. Notwithstanding the disparate impact of a sugar-sweetened beverage tax, this would not affect the constitutionality of such a tax.[148]

Second, the tax should be volumetric rather than valoric, as the former has stronger health effects.[149] This is because volumetric taxes more accurately affect the health impact of a given product than valoric taxes (e.g., products are taxed according to their contents rather than category).[150] Further, Australia has a strong tax infrastructure and highly concentrated and oligopolistic markets for sugar-sweetened beverage manufacturing and importing.[151] This means that a volumetric tax is practical to collect, despite being more complicated and costly to collect than a valoric tax.[152]

Third, the sugar-sweetened beverage tax structure should be such that it causes an average sugar-sweetened beverage price increase of at least twenty percent.[153] This is

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[145]Mazzocchi, *supra* note 92, at 4–5, Table 5.

[146]Backholer et al., *supra* note 107, at 3057, 3057, 3059; Veerman et al., *supra* note 98, at 3.

[147]*Australian Constitution* ss 51(ii), 90, 92, 117; Lau et al., supra note 97, at 248; *see also* World Health Organization, *Fiscal Policies*, *supra* note 98, at 19; Veerman et al., *supra* note 98, at 8.

[148]Lau et al., supra note 97, at 248; *Fortescue Metals Group v Commonwealth* [2013] HCA 34 ¶116 (Austl.); s*ee generally* Vuong, *supra* note 91.

[149]World Health Organization, *Fiscal Policies*, *supra* note 98, at 19; Duckett et al., *supra* note 8, at 46–47; Veerman et al., *supra* note 98, at 8; Wright et al., *supra* note 96, at 7–8.

[150]World Health Organization, *Fiscal Policies*, *supra* note 98, at 19. This problem has materialized with Australia's valoric excise tax on alcohol. *See* Parliamentary Budget Office, *Alcohol Taxation in Australia* 5–8 (Commonwealth of Australia, 2015).

[151]Australia's SSB manufacturing industry is highly oligopolistic. IBISWorld reports that approximately 69.9% of all "soft drinks" (SSBs, sports drinks, and energy drinks) manufactured in Australia are manufactured by only two manufacturers: Coca-Cola Amatil (39.8%) and Asahi Holdings (20.1%), with little of the manufacture being exported. *See* Vuong, *supra* note 91, at 3; IBISWorld, *Soft Drink Manufacturing in Australia* 5, 7–8 (Industry Risk Rating Report C1211A, July 2018).

[152]For a twenty percent valoric excise tax, the Parliamentary Budget Office estimates $7 million for setup costs and $7 million in annual costs. A volumetric excise tax would be similar but more costly. S*ee* Duckett et al., *supra* note 8, at 42, 42 n. 166; s*ee generally* World Health Organization, *Fiscal Policies*, *supra* note 98, at 19.

[153]World Health Organization, *Fiscal Policies*, *supra* note 98, at 13, 20. Veerman et al., *supra* note 98, at 2, 4, 7–8; Schaller et al, *supra* note 92, at 34, 36–39; Lal et al., *supra* note 98, at 12–13; David M.

because only a significant price increase will cause meaningful changes in sugar-sweetened beverage demand. This, in turn, is because food items have low own-price elasticities of demand.[154] In plain English, this means that price increases in a food item cause proportionally small changes in its demand. In Australia, this elasticity for sugar-sweetened beverages is estimated to be -0.63,[155] which is low by global standards (estimated to be -1.30).[156]

However, energy drinks are far more own-price elastic, with an elasticity of -2.36, which is 375% higher than the -0.63 figure for sugar-sweetened beverages in Australia[157] An implication of this is that a lower tax rate may be sufficient to significantly reduce demand for energy drinks. The author recognizes this possibility, but maintain that a twenty percent tax rate is still desirable. This is because of its proven track record for sugar-sweetened beverages, and so this rate should be used in the absence of a consensus and wide-ranging evidence on energy drink excise taxes.

Fourth, the tax should be an excise tax rather than a sales tax for three reasons.[158] Excise taxes are easier to collect and enforce because much fewer businesses are levied.[159] Also, Australia's existing excise tax legal framework makes a sugar-sweetened beverage excise tax easier to legislate and implement.[160] Finally, an excise tax is more likely to be passed on to the ultimate consumer.[161]

Fifth, the sugar-sweetened beverage tax revenues should be earmarked for public health purposes. More specifically, earmarking them for subsidizing healthy food seems to be the most effective for improving public health[162] and receiving public support.[163]

Finally, the sugar-sweetened beverage tax would be most effective at regulating energy drinks if it was levied on a tax base broader than just sugar-sweetened beverages. There are two risks that arise from restricting taxation to *sugar*-sweetened beverages alone. First, there is the risk of consumers substituting sugar-sweetened beverages with other unhealthy goods (e.g., juice, calorically sweetened products, and artificially sweetened products).[164] The second risk is that the industry will reformulate

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Studdert et al., *Searching for Public Health Law's Sweet Spot: The Regulation of Sugar-Sweetened Beverages*, 12(7) PLOS MED. e1001848, 2 (2015); LIVELIGHTER WA, *supra* note 92, at 81, 89 (2018).

[154]Own-price elasticity is a metric that measures the magnitude of changes in consumer demand for a product in response to a change in price.

[155]A price increase of one percent would only cause demand to fall by 0.63%.

[156]Veerman et al., *supra* note 98, at 3.

[157]Duckett et al., *supra* note 8, at 58 n.215.

[158]World Health Organization, *Fiscal Policies*, *supra* note 98, at 19; Brownell et al., *supra* note 102, at 1602; Duckett et al., *supra* note 8, at 32–33, 33 n.129–n.131.

[159]Duckett et al., *supra* note 8, at 40–43, 41 n. 165; Wright et al., *supra* note 96, at 8–10. Data suggests this is true as there is low market concentration in SSB wholesaling in Australia, meaning many businesses sell SSBs. *See* Vuong, *supra* note 91, at 17–18.

[160]Duckett et al., *supra* note 8, at 40–42.

[161]*Id.* at 33.

[162]Wright et al., *supra* note 96, at 8–10; *see generally* Cobiac et al., *supra* note 107.

[163]Wright et al., *supra* note 96, at 10, 12.

[164]In economic terms, non-SSB unhealthy drinks such as artificially sweetened beverages (ASBs) and fruit drinks are demonstrably substitute goods for SSBs and energy drinks, because they have similar prices and tastes. *See* IBISWorld, *Soft Drink Manufacturing in Australia* (Industry Risk Rating Report C1211A, 2018) 6; Vuong, *supra* note 91, at 12, 20; Brownell et al., *supra* note 102, at 1603; Duckett et al., *supra* note

its energy drinks to avoid the sugar-sweetened beverage tax. Specifically, the industry has the option to reformulate artificial sweeteners, or otherwise shift their focus to other aforementioned unhealthy products. To avoid these risks, the tax base should also include substitute goods such as artificially sweetened beverages[165] and less than 100% fruit juices.[166]

Notwithstanding the broader tax base, the possibility remains that the industry can reformulate their energy drinks to be less sweetened by sugar and/or artificial sweeteners while keeping the same levels of caffeine. While this is a possibility, it is not a reason to oppose a sugar/artificially sweetened beverage tax, as this reformulation would itself reduce energy drink consumption. Energy drinks' very sweet taste is part of what drives demand. Indeed, their sweet taste is partially why purchases continue to rise despite growing consciousness of their health risks.[167]

A sugar- or artificially sweetened beverage tax[168] is an imperfect way of targeting and reducing the caffeine in energy drinks. Indeed, the regulation of this particular ingredient warrants further consideration. While this is an imperfection of the proposed taxes, they have not reduced energy drink consumption according to the evidence. Further, targeting caffeine alone cannot have the ancillary benefit of reducing non-caffeinated unhealthy beverages, which is provided by a sugar/artificially sweetened beverage tax.

B. Advertising Restrictions

1. Introduction

Advertising restrictions are another potential effective tool to lower the number of adolescents and children who consume energy drinks. Moreover, at a high level, there is a strong consensus among public health experts that regulating the influence of advertising is crucial to combat childhood obesity. This is because advertising significantly affects children's consumption choices and what foods they will pressure (or more accurately upon occasion, pester) their parents to purchase.[169] Indeed, a 2010

8, at 32, 39; Wright et al., *supra* note 96, at 7, 10; World Health Organization, *Fiscal Policies*, *supra* note 98, at 20–21; Cobiac et al., *supra* note 107; Maria Carolina Borges et al., *Artificially Sweetened Beverages and the Response to the Global Obesity Crisis* 14(1) PLOS MED. e1002195 (2017); Backholer et al., *supra* note 107, at 3057, 3059; Veerman et al., *supra* note 98, at 7–8; Schaller et al., *supra* note 92, at 34, 36-39 (2018); *contra* Duckett et al., *supra* note 8, at 25 (arguing that an SSB tax is preferable to a broader tax base including ASB).

[165]Borges et al., supra note 164, at 4–5; *contra* Brownell et al., *supra* note 102, at 1603. Exempting artificially sweetened beverages from taxation would be a major omission, as all major energy drink brands in Australia now have at least one artificially sweetened product with no sugar. Vuong, *supra* note 91, at 7.

[166]Backholer et al., *supra* note 107, at 3057, 3059.

[167]Vuong, *supra* note 91, at 12.

[168]This is true regardless of whether it includes beverages containing artificial sweeteners instead of sugar.

[169]Studdert, *supra* note 153, at 12; Jordan Flanders & Michelle M. Mello, *Searching for Public Health Law's Sweet Spot: The Regulation of Sugar-Sweetened Beverages*, 12(7) PLOS MED. e1001848, 3, 6 (2015); Vicki Brown et al., *The Potential Cost-Effectiveness and Equity Impacts of Restricting Television Advertising of Unhealthy Food and Beverages to Australian Children* 10(5) NUTRIENTS 622, 1 (2018); Sonneville et al., *supra* note 92, at 124, 124–25. There has been scholarship on children's use of "pester power" to influence their parents' food purchases. *See* Rhonda Jolly, *Marketing Obesity? Junk Food, Advertising and Kids* (Research Paper No 9, Parliament of Australia, 2011), https://www.aph.gov.au/

World Health Assembly resolution called for governments to take action in this regard, stating "settings where children gather should be free from all forms of marketing of foods high in saturated fats, trans-fatty acids, free sugars, or salt."[170]

Governments can and should combat childhood obesity by regulating the advertising of sugar-sweetened beverages (and necessarily energy drinks). There is compelling evidence of a causal link between sugar-sweetened beverage consumption and the obesity epidemic.[171]

Such regulation could affect real change. This is partially because these drinks are widely consumed by adolescents.[172] In addition, curbing children's interest in and consumption of unhealthy food at a younger age makes it less likely that they will become obese later in life.[173]

The necessity of government regulation of this kind is unsurprising because advertising is very effective on children,[174] and children are frequently exposed to food advertising from both traditional media (e.g., television, print) and new media (e.g., social media, movie streaming platforms).[175]

Advertising, which is a form of commercial speech, can be subjected to extensive regulation in most countries.[176] Indeed, many countries have implemented regulations on advertising that directly or effectively regulate the advertising of energy drinks/sugar-sweetened beverages.

About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/rp1011/11rp09 [https://perma.cc/RQ86-QCZV]; LIVELIGHTER WA, *supra* note 92, at 4.

[170]WHA Resolution 63.14; *see* World Health Organization, *Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Childre*n 9 (World Health Organization, 2010); Raine et al., *supra* note 92, at 242; Pomeranz, *supra* note 127, at 76; Schaller et al., *supra* note 92, at 34, 37–38.

[171]Lal et al., *supra* note 98, at 3.

[172]Costa et al., *supra* note 1, at 638–42.

[173]Jolly, *supra* note 169.

[174]*See generally* Jolly, *supra* note 169; Raine et al., *supra* note 92, at 244–45.

[175]*See, e.g*., Jolly, *supra* note 169 ("According to a 2007 study by the American Kaiser Family Foundation, half of all advertising time on children's television is devoted to food advertising."); Bridget Kelly et al., *Television Food Advertising to Children: A Global Perspective*, 100 AM. J. PUB. HEALTH (9), 1730 (Sept. 2010); Obesity Policy Coalition, Food Advertising Regulation in Australia (Jan. 2018), http://www.opc.org.au/downloads/policy-briefs/food-advertising-regulation-in-australia.pdf [https://perma.cc/H5N3-B4J4].

[176]Australia is one example of a country without a strong constitutional right to freedom of speech. There, wide-reaching restrictions of speech can and have been legislated. *See, e.g*., Pomeranz, *supra* note 127, at 76; *Traditional Rights and Freedoms—Encroachments by Commonwealth Laws*, Final Report No. 129, Australian Law Reform Commission (Dec. 2015). However, Australians enjoy a significant (yet mutable) constitutionally implied freedom of political speech. *See, e.g*., Australian Law Reform Commission; *McCloy v New South Wales* (HCA 34, 857, 862, 872-4) (2015). The notable exception in the world is the United States due to its constitutional protection of commercial speech. *See, e.g*., Pomeranz at 76–78; Sonneville et al., *supra* note 92 at 125.

2. International Implementation and Evidence

Strong restrictions on sugar-sweetened beverage advertising are implemented in jurisdictions including France,[177] Quebec,[178] Sweden,[179] Norway,[180] the United Kingdom,[181] Brazil,[182] Chile,[183] and Ireland.[184]

i. Case Study: United Kingdom

Oft-cited examples of sugar-sweetened beverage advertising restrictions are those in the United Kingdom.[185] In 2007, the UK's Office of Communications (OfCom) introduced restrictions to reduce television advertising of high-fat, high-sugar, and high-salt (HFSS) food and drink products (including sugar-sweetened beverages) to young people (under sixteen years old). These applied on most channels initially, and progressively extended to all children's channels. In addition, content rules were introduced that prohibited the use of licensed characters, celebrities, promotional offers, and health claims in HFSS food advertisements targeted at pre-school or primary school children.[186]

The 2010 UK Code of Broadcast Advertising (BCAP Code) replaced the 2007 restrictions.[187] The BCAP Code prohibits HFSS advertising and product placement of HFSS foods during and adjacent to TV and radio programs with a "particular appeal" to children. The BCAP Code is enforceable by the Advertising Standards Agency, to whom OfCom has contracted out its enforcement function.

The 2007 and 2010 BCAP Codes appear to have had positive but modest results. OfCom reported that from 2005 to 2009 there was a significant (thirty-four to thirty-seven percent) reduction in young people's exposure to HFSS advertising.[188] However, the fall in household spending on HFSS beverages attributable to the 2007 BCAP Code was minimal (£5.6 and £5.2 per capita, per quarter in houses with children and no children, respectively).[189] Further, the introduction of the BCAP Code was

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[177]Studdert, *supra* note 153, at 3; Mazzocchi, *supra* note 92, at 9.

[178]Studdert, *supra* note 153, at 3; Mazzocchi, *supra* note 92, at 9.

[179]Studdert, *supra* note 153, at 3; Mazzocchi, *supra* note 92, at 2.

[180]Studdert, *supra* note 153, at 3; Mazzocchi, *supra* note 92, at 2–4, 9, 11.

[181]Studdert, *supra* note 153, at 2–4; Mazzocchi, *supra* note 92, at 2–3.

[182]Borges et al., *supra* note 164, at 2–4; Mazzocchi, *supra* note 92, at 2.

[183]*See* Mazzocchi, *supra* note 92, at 2–4.

[184]*See id.* at 2, 9.

[185]*See generally* Alan Rob Moodie et al., *Australia—The Healthiest Country by 2020: National Preventative Health Strategy: The Roadmap for Action*, Australian Government, Preventative Health Taskforce, 101–04, 107 (June 2009).

[186]*See* Kelly et al., *supra* note 175, at 1735; Studdert, *supra* note 153, at 2–3; *see generally* Jolly, *supra* note 169 ("[A]dvertising has effectively broadened to include a comprehensive range of activities . . . —use of licensed characters and spokes-characters, celebrity endorsements . . . , [and] sponsorship of school and sporting activities . . . ."); Food Advertising Regulation in Australia, *supra* note 175, at 1.

[187]*See generally NOURISHING Database*, *supra* note 116.

[188]*See* Raine et al., *supra* note 92, at 242; Moodie, *supra* note 185, at 124.

[189]*See* Andres Silva et al., *An Evaluation of the Effect of Child-Directed Television Food Advertising Regulation in the United Kingdom*, 63 CANADIAN J. AGRIC. ECON. (4), 583 (2015).

associated with mixed results. Specifically, the BCAP Code oversaw children being exposed to slightly *more* fast food advertising.[190]

ii. Case Study: Quebec

In Canada, the province of Quebec has regulated advertising to children since 1980. Specifically, Section 248 of the Consumer Protection Act of 1980 bans all commercial advertising directed at children under thirteen years of age,[191] regardless of the medium.[192] The only advertising exempted is that in children's magazines, at children's events, in stores, and on packaging, if they meet certain criteria.[193] This ban necessarily prohibits advertising sugar-sweetened beverages to children under thirteen years of age.[194] This ban appears to have been successful, as spending on fast food was significantly reduced (by thirteen percent).[195] Further, food advertisements seen by Quebecois children are more likely to be for healthier food than in other Canadian provinces.[196]

3. Implementation and Evidence in Australia

In Australia, legislative power to regulate energy drink/sugar-sweetened beverage advertising exists at the federal level. Aside from Australia's consumer law, which generally prohibits misleading advertising,[197] the statutory regulation of sugar-sweetened beverage advertising is very limited. In Australia, the most directly relevant federal legislative instrument is the Children's Television Standards 2009 (CTS),

[190]There was a 3.5%increase from 2008 to 2010. Rosa Whalen et al., *Children's Exposure to Food Advertising: The Impact of Statutory Restrictions*, 34 HEALTH PROMOTION INT'L (2), 230 (Oct. 30, 2017), http://academic.oup.com/heapro/article/doi/10.1093/heapro/dax044/4582284 [https://perma.cc/L7B7-BSFG].

[191]Consumer Protection Act, S.Q. 1978, c. 9, s. 248. Under Section 249, determining whether an advertisement is directed at children under thirteen years of age requires consideration of "the nature and intended purpose of advertised goods," as well as the presentation, time, and place of an advert. *See Advertising Directed at Children Under 13 Years of Age: Guide to the Application of Sections 248 and 249 Consumer Protection Act*, Office De La Protection Du Consommateur, Québec, 4 (Sept. 10, 2012).

[192]*See id.* at 3 (describing the formats and media targeted, including radio, television, and mobile phones, among others).

[193]For example, the advertisement must not exaggerate the product or directly entice a child to purchase it. *See generally NOURISHING Database*, *supra* note 116.

[194]*See* Raine et al., *supra* note 92, at 243.

[195]*Id.* at 245.

[196]*See generally id.* at 243.

[197]The Commonwealth regulates misleading and deceptive marketing via the Australian Consumer Law, which prohibits falsely advertising unhealthy food as healthy. *See, e.g.*, *Australian Competition and Consumer Commission v H.J. Heinz Company Australia Ltd*. (FCA 360 2018) (holding that healthy food representations were made and were misleading or deceptive); Lau et al., supra note 97, at 261.

which applies to commercial television broadcasting licensees.[198] The CTS restricts the content of advertising aimed at pre-schoolers[199] or children.[200]

The general restrictions are welcome (e.g., advertisements must not repeat within thirty minutes; they must not be misleading, deceptive, or put undue pressure on a child; and there must not be advertising of alcohol to children).[201] However, the CTS does not mandate reducing/eliminating the advertisement of energy drink/sugar-sweetened beverages to children. Rather, CTS: 1) provides only that the content of non-alcoholic beverage advertising must not mislead or contain incorrect information regarding the product's nutritional value;[202] 2) is very limited in scope and has application to the television shows that are the most popular among children (e.g., MasterChef™ and My Kitchen Rules™), and only apply for part of the times when they most watch television (8:00 am – 9:00 am and 6:00 pm – 9:00 pm);[203] 3) has no rules pertaining specifically to the permissibility of unhealthy food advertising;[204] 4) does not specifically restrict the frequency of advertisements for unhealthy food, such as energy drinks/sugar-sweetened beverages;[205] and 5) does not restrict advertising to children on non-television new media, such as internet ads, social media, and in-game ads.[206]

Evidence suggests that the CTS is ineffective at regulating or limiting sugar-sweetened beverage advertising to children. Indeed, research shows that Australia has some of the highest frequency of such advertising on television in the world.[207] Modeled evidence suggests that furthering advertising restrictions in Australia would be worthwhile. A 2018 study modeled the health effects of banning HFSS advertising in Australia until 9:30 p.m. every day, over the lifetime of the 2010 Australian population.[208] The study's authors concluded that it would reduce kJ intake by

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[198]*See* Food Advertising Regulation in Australia, *supra* note 175, at 2; Brown et al., *supra* note 169, at 1.

[199]These are "P programs," which are programs that the Australian Communications and Media Authority (ACMA) deems suitable for preschoolers and broadcasted within the "P band" (7:00 am to 4:30 pm Monday to Friday). *See Children's Televisions Standards 2009: Definitions*, Australian Communications and Media Authority, 6 (Aug. 2009).

[200]These are "C programs," which are programs that the ACMA deems suitable for children younger than fourteen years of age, broadcasted within the "C band" (7:00 am to 8:30 am or 4:00 pm to 8:30 pm on Monday to Friday, or 7:00 am to 8:30 pm Saturdays, Sundays, and school holidays). *See id* at 5.

[201]*See generally Children's Television Standards 2009: Repetition of Advertisements,* Australian Comm's and Media Authority 3 (Aug. 2009), https://www.legislation.gov.au/Details/F2009L03416 [https://perma.cc/BM9E-VCGP].

[202]*See id.* at Sec. 32(7), 16.

[203]*See* Food Advertising Regulation in Australia, *supra* note 175, at 1; Kelly et al., *supra* note 175, at 1735; Brown et al., *supra* note 169, at 3.

[204]*See* Food Advertising Regulation in Australia, *supra* note 175, at 1.

[205]*See id.* at 3.

[206]*See* Raine et al., *supra* note 92, at 244.

[207]Kelly et al., *supra* note 175, at 1730. Australia also has concerning levels of junk food promotion in public settings with children. *See Obesity Epidemic in Australia, Submission 88*, Senate Select Committee into the Obesity Epidemic in Australia 4 (July 5, 2018).

[208]*See* Brown et al., *supra* note 169, at 1.

approximately 115 per day and save AU$126.3 million. From this, the authors concluded that such a ban had "significant" potential for improving public health.[209]

Separate from the CTS, Australia has extant voluntary regulation as well. The Australian Beverages Council (the members of which account for ninety-nine percent of the carbonated beverage market) has endorsed and applied the restriction of marketing to children under twelve years old for ordinary (in calorie terms) beverages.[210] In addition, the Council has adopted the Australian Association of National Advertisers' (AANA) Code for Advertising & Marketing Communications to Children, [211] which provides that advertisements must not promote "an inactive lifestyle or unhealthy eating or drinking habits."[212] Further, the Council's members do not market sugar-sweetened beverages to primary schools, during "C" times as defined in the CTS.[213]

4. The Need for Stricter Advertising Regulations in Australia

There is great diversity in actual and potential energy drink/sugar-sweetened beverage advertising regulations—WHO has recognized this reality of policymaking.[214]

The existing literature suggests that advertising restrictions are effective when they are comprehensive in terms of the types of media and applicable times.[215] Further, it suggests that the content of effective advertising regulation should explicitly restrict advertising on (at least) a broad range of unhealthy foods (e.g., HFSS foods), beyond just sugar-sweetened beverages.[216] According to the Mazziocchi review, there is "suggestive, short-term" evidence of advertising restrictions' efficacy.[217]

In the Australian context, there is significant room for improvement. Effective regulation of energy drink/sugar-sweetened beverage advertising cannot be achieved within the confines of the CTS and voluntary advertising codes. To explain, the CTS benefits from carrying the force of law, but it is limited in scope. In particular, its effectiveness is handicapped by being limited to one medium (television), only at certain times of day. On the other hand, Australia's voluntary advertising codes are

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[209]*Id.* at 7–8.

[210]*Submission to the Select Committee into the Obesity Epidemic in Australia*, Submission 22, Australian Beverages Council, 32 (July 2018).

[211]*Id.*

[212]*Code for Advertising & Marketing Communications to Children*, Australian Association of National Advertisers, cl 2.14(a) (Apr. 1, 2014).

[213]*See generally Marketing & Advertising*, Australian Beverages Council (2019), https://www.australianbeverages.org/initiatives-advocacy-information/marketing-advertising/ [https://perma.cc/MBE9-7HQN]. A "C" time is defined in the *Children's Television Standards 2009*. *See Children's Television Standards 2009*, *supra* note 200, at 4.

[214]*See generally Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children*, World Health Organization, 10 (2010), http://whqlibdoc.who.int/publications/2010/9789241500210_eng.pdf [https://perma.cc/BZ4L-7YG6]; Brown et al., *supra* note 169, at 10.

[215]*See* Mazzocchi, *supra* note 92, at 3, 5; s*ee also* Jolly, *supra* note 169 (noting that Quebec's Consumer Protection Act is comprehensive in that it covers all advertising mediums as mentioned earlier, and the United Kingdom "prohibit[s] the use of licensed characters, celebrities, promotional offers" as well as "health claims in advertisements for products high in fat, salt or sugar and which [are] targeted at pre-school or primary school children").

[216]*See* Mazzocchi, *supra* note 92, at 3–5, 9; s*ee generally* Brown et al., *supra* note 169.

[217]Mazzocchi, *supra* note 92, at 4.

much broader in scope as they are not limited to specific times and platforms. Also, since the codes lack the force of law, they are less likely to be followed.[218]

Rather, effective regulation of energy drink/sugar-sweetened beverage advertising to children in Australia requires moving beyond these current measures to implement wide-ranging (e.g., wide times, mediums) legislation, with clear definitions and strong sanctions for non-compliance.[219] This is crucial to limit the exposure of adolescents and children to sugar-sweetened beverage and energy drink advertising.

These suggested recommendations are not far-fetched or unprecedented in Australia. On the contrary, there is precedent in Australia for broad-based, enforceable advertising restrictions in the Therapeutic Goods Advertising Code.[220] In addition, the author recognizes the importance of state-funded public health campaigns. However, the author disagrees that this pro-health advertising is an adequate substitute for restricting the advertising of unhealthy foods.[221]

C. Labeling Regulations

1. Introduction

The final species of energy drink/sugar-sweetened beverage regulations to be discussed are labeling regulations, which are a manifestation of the "disclosure philosophy."[222] At a high level, the disclosure philosophy provides for the compulsory disclosure of information by companies to market participants to make better decisions and "disinfect" markets of bad behavior. Note that the word "mandatory" is not accidental; voluntary disclosure of information is too often at odds with the pursuit of profit and executive bonuses, and so does not occur. The importance of disclosure regulations cannot be overstated, as they are currently essential for a fair and efficient stock market in Australia.[223]

In line with the disclosure philosophy and the importance of disclosure regulations, almost all countries have laws that mandate the labeling of food and its contents.[224] In

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[218]Australia's food industry self-regulates advertising to children. *See*, Kaldor et al., *supra* note 92, at 579. However, this self-regulation has proven to be ineffective, in the same way that such self-regulation is ineffective internationally. *See id.; see also* Sonneville et al., *supra* note 92, at 125; Brown et al., *supra* note 169, at 2; Kelly et al., *supra* note 175, at 1735; Schaller, *supra* note 92, at 37–38; Raine et al., *supra* note 92, at 245; Mazzocchi, *supra* note 92, at 3–5.

[219]*See* LIVELIGHTER WA, *supra* note 92, at 8; GLOBAL OBESITY CENTRE, *supra* note 97, at 4; Mazzocchi, *supra* note 92, at 6; Kaldor et al., *supra* note 92, at 579.

[220]This statutory rule regulates the advertising of therapeutic goods across mediums. *Therapeutic Goods Advertising Code (No. 2) 2018* (Cth) pt. 1 s 6. It also prohibits advertising to children. *Id.* at pt. 2 s. 19. There are, however, some exceptions for therapeutic goods advertised at children aged twelve and over. *Id.* at sch. 2.

[221]Indeed, the World Health Organization has recognized the desirability of both public health campaigns by government and advertising restrictions. *See* World Health Organization, *Fiscal Policies*, *supra* note 98, at 23–24.

[222]A term used in the general corporate governance regulation context in ROBERT P. AUSTIN ET AL., FORD, AUSTIN AND RAMSAY'S PRINCIPLES OF CORPORATIONS LAW (2015).

[223]*Id.* at 10.010; *Corporations Act 2001* (Cth) Ch 6D; *Re AWB Limited* [2008] VSC 473.

[224]*See* Robert Hamlin & Lisa McNeill, *The Impact of the Australasian "Health Star Rating", Front-of-Pack Nutritional Label, on Consumer Choice: A Longitudinal Study*, 10 NUTRIENTS 906, 2 (2018) [hereinafter Hamlin & McNeill, *Impact of HSR*], https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6073628/pdf/nutrients-10-00906.pdf [https://perma.cc/3YHG-5ZDM]; WHO REGIONAL OFFICE FOR EUROPE, WORLD HEALTH ORGANIZATION, BETTER FOOD AND NUTRITION IN EUROPE 9–18 (2018), http://www.euro.who.int/__data/assets/pdf_file/0005/355973/ENP_eng.pdf?ua=1 [https://perma.cc/3UYU

addition, some jurisdictions, such as Australia and New Zealand, regulate "health claims" on food packaging.[225] Such regulations govern the conditions and manner in which "High in" or "Low in" claims can be made[226] and prohibit certain claims (e.g., claims that a food has slimming or therapeutic effects).[227]

Labeling regulations are increasingly mandating front-of-package labeling.[228] Front-of-package labeling is a specific and highly visible form of labeling, as it uses imagery on food packaging to warn and inform consumers about the health dangers or benefits of food products. Front-of-package labels can be categorized as reductive or evaluative. Evaluative front-of-package labels present third party opinions (that a product is nutritionally "good") only without information (e.g., the Swedish Keyhole label). In contrast, reductive labels present only information, without an opinion regarding whether the product is nutritionally "good" (e.g., Reference Daily Intake labels).[229] In practice, many are hybrids of both categories (e.g., the Health Star Rating labels).

Notwithstanding the increasing mandating of front-of-package labeling, this labeling manifests mostly due to voluntary initiatives by industry, with notable examples being Australia's Health Star Rating (HSR) labeling, while some jurisdictions (e.g., Iran,[230] Chile,[231] and Israel[232]) have implemented or are considering mandatory front-of-package labeling regulations.[233]

Front-of-package labeling is an important policy that assists consumers in making healthy choices about what they eat. Evidence suggests that consumers are poor at using abstract nutrition information (e.g., grams of sugar or fat) to determine how (un)healthy a product is, and front-of-package labels can significantly assist in making such a determination.[234] If people read labels, this might prevent them from drinking

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-CLJQ]; s*ee generally* FOOD STANDARDS AUSTRALIA NEW ZEALAND, INTERNATIONAL SUGAR LABELING APPROACHES (2017), http://www.health.gov.au/internet/fr/publishing.nsf/Content/C6995F10A56B5D56CA2581EE00177CA8/$File/ISLA2017.pdf [https://perma.cc/VPU6-ASFB].

[225]Mazzocchi, *supra* note 92, at 2; *Food Standards Code*, *supra* note 2, at Standard 1.2.7.

[226]*Id.* at Standard 1.2.7 Div 5.

[227]*Id.* at Standard 1.2.7 ss 8, 15.

[228]Mazzocchi, *supra* note 92, at 2, 4.

[229]*See* Robert Hamlin & Lisa McNeill, *Does the Australasian "Health Star Rating" Front of Pack Nutritional Label System Work?* 8 NUTRIENTS 327, 1–2 [hereinafter Hamlin & McNeill, *Does HSR Work*?], https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4924168/pdf/nutrients-08-00327.pdf [https://perma.cc/CU4D-FHG8].

[230]*NOURISHING Database*, *supra* note 116.

[231]*Id.*

[232]WHO REGIONAL OFFICE FOR EUROPE, *supra* note 224, at 17.

[233]These regulations have been implemented in Chile, Ecuador, Iran, and Sri Lanka, and are currently being considered in Australia, New Zealand, and Canada. *See generally NOURISHING Database*, *supra* note 116. FOOD STANDARDS AUSTRALIA NEW ZEALAND, *supra* note 224, at 12–16; FOOD REGULATION STANDING COMMITTEE, CONSULTATION REGULATION IMPACT STATEMENT: LABELING OF SUGARS ON PACKAGED FOODS AND DRINKS 25–28 (2018), https://consultations.health.gov.au/chronic-disease-and-food-policy-branch/consultation-labelling-of-sugars-on-foods-drinks/supporting_documents/Public%20Consultation%20Regulation%20Impact%20Statement%20%20Labelling%20of%20sugars%20on%20foods%20and%20drinks.pdf [https://perma.cc/26HF-UG59].

[234]FOOD STANDARDS AUSTRALIA NEW ZEALAND, LITERATURE REVIEW ON CONSUMER KNOWLEDGE, ATTITUDES AND BEHAVIOURS RELATING TO SUGARS AND FOOD LABELLING 27–29 (2017), https://www.foodstandards.gov.au/publications/Documents/Literature%20review%20on%20consumer%2

an energy drink, as energy drinks are typically marked as unhealthy whenever they are subjected to a front-of-package labeling scheme.

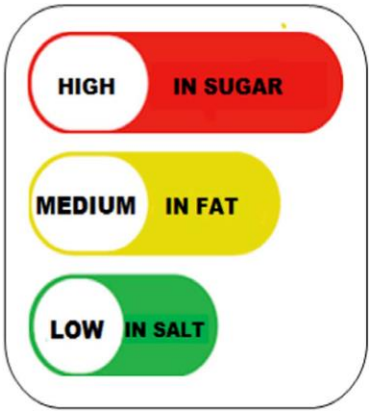
2. International Implementation and Evidence

i. Case Study: Ecuador

A statutory rule of the Ministry of Public Health of Ecuador published in November 2013 (fully effective from August 29, 2014) requires processed food to carry a "traffic light," which indicate levels of fats, sugar, and salt.[235]

The rule defines processed foods as packaged and branded products that have been submitted to technological processes for their transformation, modification, or conservation. This means that the rule necessarily applies to sugar-sweetened beverages and sugary energy drinks, among other products.[236] The traffic light labels placed on these products contain horizontal red, yellow, and green bars placed in that order from top to bottom, which signal whether a food is high, moderate, or low in sugar, fat, and salt, respectively.[237]

Figure 1. A Translated Ecuadorian Traffic Light Food Label.[238]



0knowledge,%20attitudes%20and%20behaviours%20relating%20to%20sugars%20and%20food%20labelling.pdf [https://perma.cc/74QD-T2TB]. Another potential and desirable effect of front-of-package labeling regulations, which this Article does not further explore, are the incentives for food manufacturers to reformulate their products to be healthier. *See* HEALTH STAR RATING ADVISORY COMMITTEE, SUBMISSION NO. 65 TO SELECT COMMITTEE INTO THE OBESITY EPIDEMIC IN AUSTRALIA 4 (2018), https://www.aph.gov.au/DocumentStore.ashx?id=2e5a5643-197c-40e6-ab46-bcbd2f1cd7ee&subId=6128 [https://perma.cc/NU22-NSZJ].

[235]Wilma B. Freire et al., *A Qualitative Study of Consumer Perceptions and Use of Traffic Light Food Labelling in Ecuador* 20 PUB. HEALTH NUTRITION 805, 805–06 (2017); *NOURISHING Database*, *supra* note 116. Traffic light labels "upvalue or devalue a food item" by being labelled with a green or red light, respectively. Larissa S. Drescher et al., *The Effects of Traffic Light Labels and Involvement on Consumer Choices for Food and Financial Products: Traffic Light Labels on Food/Financial Products* 38 INT'L J. CONSUMER STUDIES 217, 218 (2014).

[236]However, note that milk and sufficiently natural juices are excluded. Freire et al., *supra* note 235, at 806.

[237]*Id.* at 805–06. For the behavioral economics and psychology concerning traffic light labeling, see generally Drescher et al., *supra* note 235, at 217–20.

[238]Freire et al., *supra* note 235, at 806 ("[T]he order of presentation of the horizontal bars is red, yellow and green, corresponding to high, medium and low concentrations of sugar, fat and salt. The yellow and green bars are proportionately shorter than the red bars.").

A qualitative focus group study of Ecuadorians concluded that the policy had been successful at improving consumers' awareness of the nutritional content of food; specifically, consumers found that the labels were useful at communicating helpful information, even to children.[239] Consumers felt they were easily understandable because of their similarity to actual traffic lights seen every day, and the red bars were particularly important because they warned of danger.[240]

However, the study noted that such awareness did not necessarily translate into reduced purchasing of red-signal (e.g., HFSS) foods, and instead caused unexpected results. For example, while some consumers reduced their consumption of HFSS foods, some consumers substituted HFSS foods with other unhealthy foods,[241] and others simply consumed additional green-rated food to compensate for their continued HFSS food consumption.[242]

3. Implementation and Evidence in Australia

i. Generally Applicable Regulation

Australian regulations mandate general nutrition labeling on food products,[243] including nutrition information panels,[244] and Reference Daily Intake (RDI) percent panels for food in small packages (less than 100cm surface area).[245] Australian regulations further mandate warning/advisory statements for foods with specific ingredients.[246] Sugar-sweetened beverages (and sugary energy drinks) are subject to the foregoing general regulations, with the only sugar-sweetened beverage-specific regulations being that a food sold as a sugar-sweetened beverage must actually be a sugar-sweetened beverage and that non-alcoholic sugar-sweetened beverages must not imply they are alcoholic.[247]

As for front-of-package labeling, the Australia and New Zealand Ministerial Forum on Food Regulation[248] agreed to and implemented the voluntary Health Star Rating

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[239]*Id.* at 807–08.

[240]*Id.* at 808.

[241]For example, substituting SSBs for artificially sweetened beverages (ASBs).

[242]Freire et al., *supra* note 235, at 810.

[243]*Food Standards Code*, *supra* note 2.

[244]*Id.* at sch 12.

[245]*Id.* at Standard 1.2.1. sch 13.

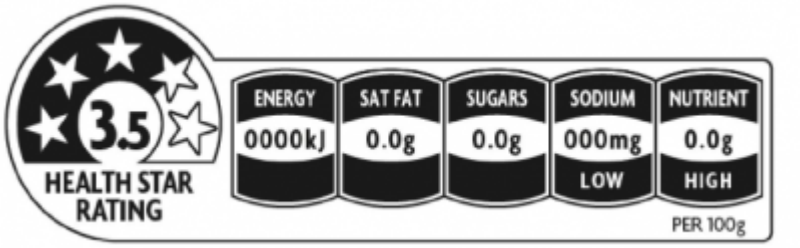
[246]These ingredients include artificial sweeteners such as lactitol, xylitol, and sorbitol, and allergenic ingredients such as fish, soybeans, and sesame seeds. *See id.* at Standard 1.2.3 ss 2, 4.

[247]*Id.* at Standard 2.6.2 ss 2, 6, 8.

[248]The Food Standards Australia New Zealand Act establishes FSANZ as an Australian statutory body. *See Food Standards Code*, *supra* note 2. FSANZ develops and enforces the Australia New Zealand Food Standards Code, which concerns food labeling and formulation, among other things. New Zealand began participating in FSANZ's regulatory framework under the *Agreement between the Government of New Zealand and the Government of Australia Concerning a Joint Food Standards System*, signed 5 December 1995, [1996] ATS 12 (entered into force 7 May 1996). This treaty was amended by *Agreement with New Zealand concerning a Joint Food Standards System*, signed 25 October 2001, [2002] ATS 13 (entered into force 7 January 2002); *Exchange of Letters Amending the Agreement between the Government of Australia and the Government of New Zealand Concerning a Joint Food Standards System*, signed 3 March 2010, [2010] ATS 15 (entered into effect July 6, 2010).

system in 2014[249] to supplement laws for mandatory nutrition labeling.[250] The Health Star Rating system assigns food products an evaluative Health Star Rating score ranging from 0.5 (least healthy) to 5 (most healthy), with increments at 0.5.[251] The score is calculated using a scoring algorithm, which is a nutrient profiling algorithm reflecting the Australian Dietary Guidelines.[252] The Health Star Rating system is intended to provide consumers with an easily understood summary of a food product's nutritional quality (to help them make informed, healthier food choices) with healthier foods being assigned a higher score.[253] These Health Star Rating scores are presented graphically on food packages on a Health Star Rating label. In addition, Health Star Rating labels can include reductive nutritional information with further RDI evaluations for energy, fat, sugars, sodium, and nutrients.[254]

Figure 2. A Mock Fully-Featured Health Star Rating Label[255]



Health Star Rating labeling has moderate industry adoption in Australia. A four-year post-implementation study of 15,767 Health Star Rating-eligible products found that a respectable twenty-eight percent (and increasing) carried Health Star Rating labels, which is comparable to the adoption of similar voluntary labeling schemes overseas.[256] Further promising results were that Australia's two major supermarkets

[249]The Ministerial Forum agreed that the HSR would be a voluntary system, subject to the adoption being widespread and consistent. The voluntary nature of the HSR contrasts with the mandatory nature of country of origin labeling in Australia. *See* Alexandra Jones et al., *Uptake of Australia's Health Star Rating System* 10 NUTRIENTS 997, 7 (2018), https://pdfs.semanticscholar.org/6d0f/0dbbc52a1959a07c305d2a9fa1a2fbb154f1.pdf [https://perma.cc/4U53-FP24].

[250]*See Food Standards Code*, *supra* note 2, at schs 12, 13.

[251]Sanne A. E. Peters et al., *Incorporating Added Sugar Improves the Performance of the Health Star Rating Front-of-Pack Labelling System in Australia*, 9 NUTRIENTS 701, 2 (2017), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5537816/pdf/nutrients-09-00701.pdf [https://perma.cc/32K4-BGFY].

[252]An HSR score is a function of a food's content of saturated fat, sugar, sodium, and energy (which dampen the rating), as well as protein, fiber, fruit, and vegetables (which increases the rating). Each category of food (i.e., non-dairy beverages, dairy beverages, oils and spreads, cheese and processed cheese, all other dairy foods, and all other non-dairy foods) uses a different and specific algorithm, meaning ratings are not comparable across different food categories. *See* Jones et al., *supra* note 249, at 2; *see also* HEALTH STAR RATING ADVISORY COMMITTEE, *supra* note 234, at 1–2.

[253]HEALTH STAR RATING ADVISORY COMMITTEE, *supra* note 234, at 2.

[254]Jones et al., *supra* note 249, at 3 app. A.

[255]Hamlin & McNeill, *Does HSR Work?*, *supra* note 229, at 4 fig.2.

[256]Jones et al., *supra* note 249, at 997.

are aggressively adopting the Health Star Rating on their own products,[257] and, more generally, Health Star Rating labels are frequently appearing on food categories where consumers are most likely to consume them (e.g., cereals and pre-prepared meals).[258]

The results suggest that Health Star Rating labeling is being manipulated as a marketing tool by companies for their healthier products by intentionally omitting the Health Star Rating from unhealthy foods with a low Health Star Rating score.[259] The study showed that 76.4% of Health Star Rating-labelled products displayed a Health Star Rating of 3.0 or higher. Further, Health Star Rating-labelled products had a significantly higher mean Health Star Rating (3.4) than non-Health Star Rating-labelled products (2.7). Health Star Rating labels have low adoption on foods scoring less than 2.0, which are deleterious junk foods. This manipulation is exhibited specifically by a particular sugar-sweetened beverage manufacturer.[260]

The Health Star Rating scoring algorithm generally functions as intended by assigning healthier foods (often "core" foods) higher scores than unhealthier foods (often "discretionary" foods).[261] An important flaw of the Health Star Rating algorithm is that it uses *total* sugar, rather than added sugar, in calculating the Health Star Rating score. Necessarily, this means that natural sugars present in fruit and vegetable ingredients are treated as equivalent to intentionally added sugar.[262] A recent investigation reveals that while the Health Star Rating scores are generally ordinarily accurate, ignoring added sugar in the algorithm would be a meaningful improvement and eliminate significant anomalies (e.g., some added-sugar rich producers receiving high scores).[263]

The effectiveness of the Health Star Rating system in influencing consumer choice has been tested. A 2016 experimental study by Peters et al. in New Zealand involved subject consumers choosing from invented cereal products, with different boxes of the same cereal having different Health Star Rating scores. The results showed that the Health Star Rating labels had only a minor, sub-significant effect on consumer

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[257]According to the study, HSR logos appear on 85.9% and 76.2% of Coles' and Woolworths' products, respectively, the highest and third-highest percentages for any manufacturer in Australia. *Id.* at 1003.

[258]The Starlight Study found that consumers were most likely to consider HSR ratings for convenience foods, cereals, snack foods, bread and bakery products, and oils. *See* Cliona Ni Mhurchu et al., *Do Nutrition Labels Influence Healthier Food Choices? Analysis of Label Viewing Behaviour and Subsequent Food Purchases in a Labelling Intervention Trial*, 121 APPETITE 360 (2018). Further, consumers were least likely to view labels for sugar and honey products, eggs, fish, fruit and vegetables, and meat. *See id.*

[259]*See* Duckett et al., *supra* note 8; *see also* Claire Elizabeth Pulker et al., *Alignment of Supermarket Own Brand Foods' Front-of-Pack Nutrition Labelling with Measures of Nutritional Quality: An Australian Perspective*, 10 NUTRIENTS 1465 (2018).

[260]On Coca-Cola Amatil products, products carrying an HSR label have a 3.5 average rating, while those lacking an HSR rating score 2.5. Jones et al., *supra* note 249, at 1003.

[261]Sanne A. E. Peters et al., *Incorporating Added Sugar Improves the Performance of the Health Star Rating Front-of-Pack Labelling System in Australia*, 9 NUTRIENTS 701 (2017).

[262]*Id.* at 703. This is an issue because added and natural sugars are not equally a health issue. This lack of consideration of added sugar also afflicts the mandatory nutrition labeling laws of Australia and other jurisdictions. Currently, only the United States has mandatory labeling of added sugar. *See id.*; Report, Food Standards Australia New Zealand, International Sugar Labelling Approaches (2017), http://www.health.gov.au/internet/fr/publishing.nsf/Content/C6995F10A56B5D56CA2581E E00177CA8/$File/ISLA2017.pdf [https://perma.cc/9KB8-GBL6].

[263]*Id.*; *Four Corners: Tipping the Scales* (Australian Broadcasting Corporation, 'Tipping the Scales', 2018) 0:35:25 – 0:36:16.

choice.[264] However, the results of the 2018 Starlight Study[265] showed that viewing Health Star Rating labels led to healthier food choices. Specifically, products for which participants viewed the Health Star Rating label and subsequently purchased were significantly healthier than products for which the Health Star Rating label was viewed but not purchased. The important implication is that consumers were using differentials in Health Star Rating scores to discriminate between different Health Star Rating-labelled foods in their purchasing decisions. Further recent evidence is found in an experimental mock 2018 study by Telati et al. of 2,069 people aged ten and up.[266] This study found that the Health Star Rating was effective at influencing healthier food choices. Specifically, when only viewing products of a given food category with Health Star Rating labels, forty percent selected the healthiest variants, thirty-three percent selected moderately healthy variants, and only twenty-three percent selected the least healthy variant.[267]

ii. Energy Drink labeling Laws in Australia

The labeling laws concerning energy drinks in Australia are very strict. Some of the most significant parts of the relevant legislative instrument state that energy drink labels in Australia must include declarations of the average quantities per serving size and per 100 mL of caffeine and of various substances such as taurine, niacin, riboflavin, and vitamin B6.[268] The label must also state that: 1) the energy drink has caffeine; and 2) it is not recommended that energy drinks be consumed by children, pregnant or lactating women, and people who are sensitive to caffeine.

Further, energy drink labels must not state the quantities of vitamins that they contain as a portion or multiple of the recommended amount or estimated safe and adequate daily dietary intake of the vitamin.[269] While it is helpful that the labels specifically mention that energy drinks are not consumed by specific types of people, such as children, they do not mention why these types of people should not consume energy drinks. Also, these labels do not specifically mention that people who have heart problems or dental problems should not consume energy drinks.

4. Changes to Australian Law

Australia should further adopt front-of-package labeling because, all things considered, this labeling can significantly inform and influence consumers to make healthier food purchases. Front-of-package labeling alone is not a silver bullet and only reaches its full potential where consumers are health-conscious enough to care about front-of-package labeling's messages.[270] Fortunately, Australians are

[264]Peters et al., *supra* note 251.

[265]The Starlight Study was a four-week, randomized controlled trial of consumer behavior of 1,225 participants in an actual supermarket setting. *See generally* Mhurchu et al., *supra* note 258.

[266]Zenobia Talati et al., *The Impact of Interpretive and Reductive Front-of-Pack Labels on Food Choice and Willingness to Pay* 14 INT'L J. BEHAV. NUTRITION & PHYSICAL ACTIVITY 171 (2017).

[267]*Id.*

[268]*Food Standards Code*, *supra* note 2, at Standard 2.6.4 - Formulated Caffeinated Beverages, s 3(1).

[269]*Id.*

[270]Vuong, *supra* note 91, at 5 ("Health consciousness indicates consumers attitudes towards health issues and lifestyle choices. Increased health consciousness tends to negatively affect demand for soft drinks due to their high sugar content."); *see also* Health Star Rating Advisory Committee, Submission No 65 to

increasingly health-conscious.[271] This means that Australia is primed for front-of-package labeling.

As for the particular front of purchase labeling to be implemented, evaluative labeling is overall preferable to purely reductive labeling.[272] Of the evaluative labeling, there is evidence to suggest that traffic light labeling can help consumers distinguish between the most and least healthy foods, but does little to distinguish between foods that are all similarly and moderately healthy. Further, the Health Star Rating has received mixed reception in the literature, but more recent studies on its effectiveness have found that it is an overall effective labeling scheme despite its problems. These problems, namely its voluntary nature and flaws in the Health Star Rating algorithm, can be remedied at the will of the federal government and would significantly improve the Health Star Rating's effectiveness.

In addition, the extant labeling regulations for energy drinks should remain and be extended;[273] perhaps by making the current advisory statements more visible and adding additional warnings about the health impacts of these drinks and their high added sugar and caffeine content.

It appears that a reasonable course of action would be to apply the remedies to the Health Star Rating by tweaking the Health Star Rating algorithm (to make it account for added sugar)[274] and mandating it on all packaged foods.[275] Ideally, a Health Star Rating label would be mandated on energy drink/sugar-sweetened beverage bottles and cans rather than merely cartons.[276] Further, this reform should be accompanied by increased education on the Health Star Rating, because the literature has noted that Australians' understanding of it is often lacking. For instance, the non-comparability

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Select Committee into the Obesity Epidemic in Australia, 2018, 1; NSW Health, Submission No 145 to Select Committee into the Obesity Epidemic in Australia (June 25, 2018), 7.

[271]Vuong, *supra* note 91, at 5 ("Health consciousness [in Australia] is expected to rise in 2017-18, posing a threat to [SSB] industry demand.") ; IBISWorld, 'Soft Drink Manufacturing in Australia' (Industry Risk Rating Report C1211A, July 2018) 9 ("[C]onsumers are increasingly conscious of the high sugar content of many soft drinks. This has shifted consumer demand away from soft drinks and towards bottled water or fruit juice drinks. However, this effect is partially offset by the increase in low- or zero-sugar soft drinks."). This rise in health consciousness may be due in part to Australia's effective state-sponsored LiveLighter media campaigns. *See generally* Belinda C. Morley et al., *Controlled Cohort Evaluation of the LiveLighter Mass Media Campaign's Impact on Adults' Reported Consumption of Sugar-Sweetened Beverages*, 8 BMJ OPEN (2018), https://bmjopen.bmj.com/content/8/4/e019574 [https://perma.cc/R9AY-M4RE]. However, paradoxically, this health-consciousness has not translated into decreasing sales of energy drinks in particular, with sales continuing to rise as consumers are substituting other SSBs for energy drinks believing the latter are healthier. It is curious that despite many energy drinks "being high in sugar and including other ingredients that are perceived as being unhealthy, energy drinks have expanded as a share of industry revenue over the past five years." Bao Vuong, 'Soft Drink Manufacturing in Australia' (Industry Report C1211A, IBISWorld, May 2018) 5–7, 12.

[272]Zenobia Talati et al., *supra* note 166; *See also* B. Kelly et al., *Front-of-Pack Food Labelling: Traffic Light Labelling Gets the Green Light*, CANCER COUNCIL (2008), https://ro.uow.edu.au/hbspapers/2813/ [https://perma.cc/8F9D-GCCR].

[273]*Food Standards Code*, *supra* note 2, at Standard 2.6.4 - Formulated Caffeinated Beverages.

[274]Wilma B. Freire et al., *A Qualitative Study of Consumer Perceptions and Use of Traffic Light Food Labelling in Ecuador* 20 PUB. HEALTH NUTRITION 805, 811 (2017); *see also* LIVELIGHTER WA, *supra* note 92, at 4.

[275]*See generally* Jones et al., *supra* note 249, at 997; LIVELIGHTER WA, *supra* note 92, at 4.

[276]*See* Stephen Duckett & Hal Swerissen, *A Sugary Drinks Tax: Recovering the Community Costs of Obesity*, GRATTAN INSTITUTE (Nov. 2016), https://grattan.edu.au/wp-content/uploads/2016/11/880-A-sugary-drinks-tax.pdf [https://perma.cc/9ZHB-7CUV].

of HSR ratings across different food categories is not well understood. Remedying this education gap to allow Australians to make better decisions would be worthwhile.[277]

5. Concluding Remarks on Regulation

There are a few themes that can be extracted from the analysis conducted above. First, all three regulatory options can be implemented and administered within existing legislative and regulatory infrastructure. In the foregoing analysis, reference was made to the CTS, existing excise tax legislation, and the Health Star Rating system. These particular regulatory schemes already provide a basis on which the reforms can be grafted.

For instance, adding sugar-sweetened beverages to the Excise Tariff Act at a satisfactory rate would be sufficient legislative basis for a domestic sugar-sweetened beverage tax.

Implementation details are an important consideration because complex regulatory changes can impact businesses. A report by the Hayne Royal Commission suggests that, as a result, it is preferable to use existing legislative infrastructures rather than creating new statutes or agencies.[278]

CONCLUSION

It is crucial that children and adolescents drink as few energy drinks and sugar-sweetened beverages as possible. This Article has discussed the psychological and physiological impacts of both. Legislation can help to accomplish this. In particular, changes to taxation, advertising, and labeling laws may help make this happen. Other jurisdictions have implemented some aspects of this legislation, and Australian legislators can look to them for guidance. While some may argue that such legislative change may make Australia a "nanny state" or similar by taking away the public's choices, improving and safeguarding the health of young people is more than worth it.

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[277]HEART FOUNDATION, *Report on the Monitoring of the Implementation of the Health Star Rating System: Key Findings for Area of Enquiry 2—Consumer Awareness and Ability to Use the Health Star Rating System Correctly*, (Apr. 2018) [https://perma.cc/72PX-Y9JA] ("The majority of people [surveyed] correctly understand that the HSR system is a rating or guide to the healthiness of a product (58 percent), and helps consumers to identify healthier food options within the same food category (71 percent). Consumers also understand that the more stars a product has, the healthier it is, relative to other food items. However, some respondents believe the HSR can be used across food categories. This indicates that while consumers have a good general understanding of how to interpret the HSR, they don't have such a strong grasp on the nuances of the system . . . . The views of respondents were sought on what could be done to increase their trust in the HSR. The majority of respondents stated that providing greater explanation of how stars are calculated would be beneficial (63 percent) . . . . However, the majority of respondents (70 percent) understood they could source additional information from the HSR website, or a dietitian or nutritionist (24 percent)."); *see* David Taylor, *Financial Literacy Education in Reserve Bank's and ASIC's Sights*, ABC NEWS (Nov. 28, 2018), https://www.abc.net.au/news/2018-11-27/financial-literacy-education-in-asic-and-rba-sights/10550560 [https://perma.cc/9V22-ZWF8].

[278]Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry, *Interim Report* xx (2018) ("The law already requires entities to 'do all things necessary to ensure' that the services they are licensed to provide are provided 'efficiently, honestly and fairly'. Much more often than not, the conduct now condemned was contrary to law. Passing some new law to say, again, 'Do not do that', would add an extra layer of legal complexity to an already complex regulatory regime. What would that gain?").

APPENDIX 1. TABLE OF AUSTRALIAN SUGAR-SWEETENED BEVERAGES AND JUNK FOOD TAX STUDIES

Study	Tax Modelled	Time Modelled	Est. Financial Benefits	Est. Health Benefits[279]
Duckett & Swerissen (2016)[280]	Volumetric excise tax of $0.40/100 g sugar in sugar-sweetened beverages[281]	2017	$520m gross tax revenue	-10 L sugar-sweetened beverage consumption per capita
	Volumetric excise tax of $0.30/100 g sugar in sugar-sweetened beverages[282]		$400m gross tax revenue	-7 L sugar-sweetened beverage consumption per capita
	Tiered volumetric Tax on sugar-sweetened beverages[283]		$480m gross tax revenue	-9 L sugar-sweetened beverage consumption per capita
	$0.40 volumetric excise tax on sugar-sweetened beverages[284]		$550m gross tax revenue	-10 L sugar-sweetened beverage consumption per capita
	$0.30 volumetric excise tax on sugar-		$430m gross tax revenue	-8 L sugar-sweetened beverage consumption per capita

[279]To explain the terms in this column, a HALY is a "health-adjusted life year" (i.e., healthy year of life gained), whereas a DALY is a "disability-adjusted life year" (i.e., healthy year of life lost).

[280]Duckett et al., *supra* note 8.

[281]A tax on the sugar within SSBs (higher). Unless otherwise noted, all dollar values refer to Australian Dollars (AU$).

[282]A tax on the sugar within SSBs (lower).

[283]$0.20/liter on SSBs with sugar content <8 g sugar/100m; $0.40/liter on SSBs with >8 g sugar/100mL.

[284]A tax on the volume of SSBs (higher).

	sweetened beverages[285]			
	20% valoric excise on retail price of sugar-sweetened beverages		$550m gross tax revenue	-10 L sugar-sweetened beverage consumption per capita
Parliamentary Budget Office (2016)[286]	20% valoric excise tax on water-based, non-alcoholic beverages containing natural sugars and/or added caloric sweeteners with >5 g sugar/100mL	2016/17 – 2019/20 federal budget Periods	$2.085b net tax revenue (average $521.25m p.a.)	N/A
Veerman et al. (2016)[287]	20% valoric sales tax on sugar-sweetened beverages (excluding fruit juices, milk-based drinks, and cordials)	2010 – 2035	$400m gross tax revenue p.a. $609m healthcare costs saved total	Decline in the prevalence of obesity of ~2.7% (0.7 ppt) among men, and ~1.2% (0.3 ppt) among women, +168,000 HALY 1606 people would be alive Reduce incidence of Type 2 Diabetes by 16,000 cases

[285]A tax on the volume of SSBs (lower).

[286]Parliamentary Budget Office, 'GRN084—Tackling Obesity: Sugar Sweetened Beverages' (Costing, Parliament of Australia, 2016), https://www.aph.gov.au/~/media/05%20About%20Parliament/ [https://perma.cc/AEN2-TMXP].

[287]*See generally* J. Lennert Veerman et al., *The Impact of a Tax on Sugar-Sweetened Beverages on Health and Health Care Costs: A Modelling Study*, PLOS ONE (Apr. 13, 2016), https://www.ncbi.nlm.nih.gov/pubmed/27073855 [https://perma.cc/2UJW-DAUK].

				(0.6% reduction) ▯ Ischaemic heart diseases by 4,400 cases ▯ Stroke by 1,100 cases
Cobiac et al. (2017)[288]	Sugar tax[289]	Expected lifetimes of Australians alive in 2010	Net healthcare cost-saving of $3.4b	-270,000 DALY
	Volumetric sales tax on excess salt tax[290]			-130,000 DALY
	Volumetric sales tax on saturated fat tax[291]			-97,000 DALY
	Volumetric sales tax on sugar-sweetened beverage tax[292]			-12,000 DALY
	Fruit and vegetable subsidy[293]			+13,000 DALY[294]

[288]Cobiac et al., *supra* note 107.

[289]$0.94/100 mL of ice cream on ice cream containing >10 g of sugar per 100 mL of ice cream; on sugar content in excess of 10 g per 100 g of all other products, excluding fresh fruits, vegetables, and unflavored dairy products.

[290]$0.30/1 g of sodium on products containing sodium in excess of Australian maximum recommended levels, excluding fresh fruits, vegetables, meats, and dairy products.

[291]$1.37/100 g of saturated fat on foods with >2.3% saturated fat, excluding drinking milk.

[292]$0.47/1 l on sugar-sweetened soft drinks, energy drinks, cordials, and fruit drinks (juice beverages having <90% by volume of fruit juice).

[293]$0.14/100 g on all fresh and preserved fruits and vegetables.

[294]"There was a big difference in outcomes between the subsidy intervention and the four tax interventions. When modelled over the lifetime of the population, the fruit and vegetable subsidy did not lead to an improvement in health or a reduction in disease treatment costs . . . . Although the costs of treating dietary-related diseases were reduced with each of the taxes, this was partly countered by an increase in the

Lal et al. (2017)[295]	20% valoric sales tax on sugar-sweetened beverages	Expected lifetimes of Australians alive in 2010	$1.73b healthcare costs saved total $642.9m gross tax revenue p.a.	+175,300 HALY

costs of treating non-dietary-related diseases in the [years of life added by the subsidy]." Cobiac et al., *supra* note 107.

[295]Lal et al., *supra* note 98, at 3.