



Exploring the Acceptability of a Tax on Sugar-Sweetened Beverages

Insight Work

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1. Introduction

Currently, 65% of men and 58% of women in the UK are overweight or obese. In children, 16.6% of boys and 15.9% of girls were obese in 2011, and the proportion of adults that were obese rose from 13% in 1993 to 24% in 2011 for men and from 16% to 26% in women (Eastwood, 2013). In comparison to the rest of the UK, Northern England has significantly higher obesity prevalence rates than Southern England, with the North West having the second highest rates of obesity compared to other regions in the rest of the UK (the prevalence of obesity in the North West being at 11.7% of the general population, with the North East being highest overall at 13.5%) (Eastwood, 2013).

The rising trends in obesity among children and adults in the UK and other high-income countries have been accompanied by lifestyle changes such as increased sedentary and unhealthy eating behaviours (often based on high-density processed food and drink) which has contributed to high rates of obesity among young people and adults (Butland et al., 2007; Al-Nakeeb et al., 2012). These patterns of increasing overweight and obesity in the general population are documented among many different populations of developed countries, leading many to hypothesize that the environment, rather than individual-level factors, may be driving the obesity epidemic (Giskes, van Lenthe, Avendano-Pabon & Brug, 2010). A notable global dietary trend has been the rise in consumption of sugar-sweetened beverages (SSBs) (Bleich, Wang, Wang & Gortmaker, 2009; Ng, Mhurchu, Jebb & Popkin 2011).

Market research data illustrate a steady upward trend in global consumption of SSBs from 2005 to 2011 (Zenith International, 2013). Consumption of SSBs in the UK reached 14,685 million litres in 2011 (Sustain, 2013). SSBs are beverages that contain added caloric sweeteners (such as sucrose, high-fructose corn syrup or fruit juice concentrates) that include the full spectrum of soft drinks (such as carbonated soft drinks, fruit drinks, sports drinks, energy and vitamin water drinks, sweetened iced tea, cordial, squashes, and lemonade) (Malik, Popkin, Bray, Desperes & Hu, 2010). Within the UK, the highest consumers of SSBs appear to be adolescents and children, followed by young adults (Gibson, 2010; Ng et al., 2011; Popkin, 2012), with consumption of sugar being substantially higher than recommended (Rugg-Gunn, Fletcher, Matthews, et al., 2007).

High consumption of SSBs can have detrimental effects to health, and there is strong evidence for the association between high SSB intake and weight gain (Welsh et al., 2005; Malik, Schulze & Hu, 2006; Gibson, 2008; Woodward-Lopez, Koa & Ritchie, 2010; Monasta et al., 2010; de Ruyter, Olthof, Seidell & Katan, 2012; Morenga, Mallard & Mann, 2013). A decrease in the consumption of SSBs has the potential to reduce detrimental health effects and reduce the prevalence of overweight and obesity. As there are many factors that drive SSB consumption, modifying the consumer environment through taxation could produce a more lasting effect on behavioural change and levels of obesity (Osei-Assibey et al., 2012), as food prices have been found to be the key determinants of consumption (Epstein et al., 2006; Epstein et al., 2007; Khan et al., 2012). In order to understand how and why a taxation of SSBs could influence intake, insight work has been undertaken with a representative sample of children and adults across the North West of England.

2. Methodology

A qualitative approach was deemed necessary to offer insight into the subjective factors which influence behaviour and behaviour change. Qualitative methods were also deemed the most appropriate method for enabling thorough interrogation of issues regarding consumption, understandings of health implications, and opinions and perceptions of how a tax may influence behaviour change. Further, a key focus of this research was on children and young people as they are shown to be the highest consumers of SSBs, for whom surveys and other quantitative techniques would have not been appropriate. The discourse of children has often been underrepresented in research, with many studies researching 'on' children, as opposed to researching 'with' children. It has been acknowledged that children's views are a central aspect of our understandings, and encourage that children's views must be central to research (France, 2004). A range of one-to-one semi-structured interviews and focus groups were undertaken to gather in-depth insight. These qualitative methods were also supplemented by surveys, which were used to maximise the amount of data gathered, and covered the same topics as the interview and focus groups. Surveys were chosen as an additional method of gathering data as it was important to offer a quick and efficient method of collecting data in situations where interviews and focus groups were not possible or convenient (such as Children's Centre Open Days), and the data generated served to further verify the interview and focus group findings.

There is a dearth of evidence regarding how a tax on SSBs could influence behaviour. The purpose of this insight was to develop theory, therefore the interpretive research methodology Grounded Theory was used as the framework for analysis of the in-depth qualitative data gathered from the interviews and focus groups. The nature of Grounded Theory research allows the development of theory, based on the views and experiences of participants. This method provides a structured approach to collecting and analysing data, and was deemed most appropriate for developing and formulating theories from within the data. Specifically, Strauss and Corbin's (1990) approach to Grounded Theory was used, to ensure that theory is developed through the subjective perspectives of participants. The survey data were also categorised into themes, where appropriate, or analysed descriptively. The final survey data have been analysed statistically, to explore associations between consumption, perceptions, age and gender.

2.1 Sampling

In order to fully explore the experiences, perceptions and behaviours of people who may be most affected by a tax on SSBs, insight was gathered from people who were more likely to consume these beverages. The existing evidence regarding consumer type and the associated determinants of SSB consumption was used to inform the sampling for the insight work. Evidence from five UK papers (Rugg-Gunn, et al., 2007; Gibson, 2008; Gibson, 2010; Ng, et al., 2011; Gibson & Shirreffs, 2013) all agree that the biggest consumers of SSBs in the UK are currently young people aged between ten and nineteen years old (largest consumers in the UK), young children between four and nine years old, and young adults aged nineteen and over. Research suggests that consumption of SSBs does appear to decrease with age. Adults aged between 19 to 35 years of age consume more than adults aged 35 to 50 years, who in turn consume more than people aged over 50 years. The evidence also shows that very young children and those in pre-school are not large consumers of SSBs in the UK (Rugg-Gunn, et al., 2007; Gibson, 2008; Gibson, 2010; Ng, et al., 2011; Gibson & Shirreffs, 2013).

Other relevant characteristics were also used to inform the sampling. It was important to include females in the sample, as evidence demonstrated that the effects of SSB intake appears stronger in women (a systematic review of 88 studies found stronger detrimental effects of increased energy intake [Vartanian, Schwartz & Brownwell, 2007]), and there are currently also slightly higher rates of obesity in UK women compared to UK men (26% of UK

women, 24% of UK men) (Eastwood, 2013). It was also important to include participants from deprived areas, as these areas demonstrate higher rates of obesity and purchase more SSBs than higher income households (Deshmukh-Taskar, Nicklas, Yang & Berenson, 2007; Sustain, 2013). The nutritional behaviours of families was central to the insight, as the diet of parents directly affects the diet of their children, and a whole family approach may be most effective in terms of designing effective obesity interventions (Butland, Jebb, Kopelman, et al., 2007; van der Horst, Oenema, Ferreira, et al., 2007; Kalavana, Maes & de Guht, 2010; Academy of Medical Royal Colleges, 2013). Finally, as children and adolescents are the biggest consumers of SSBs, it was crucial to explore behavioural motivations. Childhood and adolescence are crucial stages of development where lifestyle habits are formed and set and early intervention is recommended, and obesity has been found to track from childhood through to adulthood (Malik, et al., 2006; Gibson, 2008).

2.2 Participants

The participants to be included in the insight work were based around the five counties across the North West of England. Specific areas for inclusion were selected on the basis of obesity and deprivation, two of the key determinants of SSB intake. Two of the areas, Cumbria and Lancashire, had requested additional insight be undertaken; three areas within these counties were initially selected for sampling purposes. Table 1 outlines the areas selected for the insight work, and the relevant obesity and deprivation for each¹.

Table 1 Area selection: insight sampling (using Health Profile 2012 data)

County	Area	Deprivation ^a	Obese adults ^b	Obese children ^c
Cheshire	Halton	48.2	25.9	23.8
Cumbria	Barrow-in-Furness	38.2	26.1	20.3
	Carlisle and/or	17.5	24.3	20.3
	Copeland	20.4	25.7	23.9
Lancashire	Blackpool	48.5	25.8	19.8
	Burnley and/or	48.4	24.6	18.7
	Blackburn-w-Darwen	51.5	24.5	20.3
Greater Manchester	Manchester	64.8	21.1	23.7
Merseyside	Knowsley	58.7	25.5	24.3

^a % people in this area living in 20% most deprived areas in England, 2010

^b % adults, modelled estimate using Health Survey for England 2006-2008

^c % school children in Year 6 (age 10-11), 2010/11

In terms of sample size, it was originally planned to undertake a minimum of one data collection activity (interview/focus group/survey) with each key group, in each of the five selected geographical areas (Table 2). This level of research would ensure an adequate amount of insight was gathered to enable a representative reflection of views across the North West, whilst enabling the data to be collected within the required timescale. In addition to this, the same data collection methods were replicated within the additional insight areas in Cumbria and Lancashire (not shown on the table).

¹ Two of the counties, Cumbria and Lancashire, requested additional insight be undertaken, therefore insight was undertaken in either two or three areas of each county (depending on feasibility), rather than one.

Table 2 Proposed methods, sampling and recruitment

Key group	Rationale	Method	Sampling ^b	Total N	Potential location for recruitment	Recruitment method
Young families	To elicit views regarding family behaviours	Family interviews	1 x each area	5	Children's Centres	Gatekeeper support plus advertisement in and around Children's Centres
Parents	To elicit understanding of parental behaviours regarding SSBs and if/how they feel this impacts on the behaviours of their children (also to explore whether families use SSBs as rewards and awareness of health consequences)	1-1 or paired interviews ^a	1 x each area	5	Children's Centres	Gatekeeper support plus advertisement in and around Children's Centres
Children 4-12yrs	To elicit knowledge, attitudes and behaviours regarding intake of SSBs	Focus groups	1 x male (Halton) 1 x male (Barrow') 1 x mixed (Blackp'l) 1 x female (Manc'r) 1 x female (Knowsley)	5	Schools Children's Centres	Gatekeeper to pre-select children known to consume SSBs
Adolescents 12-19yrs	To elicit knowledge, attitudes and behaviours regarding intake of SSBs	Focus groups	1 x female (Halton) 1 x female (Barrow) 1 x male (Blackp'l) 1 x mixed (Manc'r) 1 x male (Knowsley)	5	Schools Colleges Children's Centres	Gatekeeper to pre-select adolescents known to consume SSBs Plus local advertisement
Adults 19-30yrs	To elicit knowledge, attitudes and behaviours regarding intake of SSBs	Surveys	10 x male, 10 x female in each area	100	On-street	Random selection of people consuming sugary beverages in qualitative interview locations and town centres ^c
Obese adults and children	To explore intake of SSBs and whether how/if these behaviours have changed since being involved in a Lifestyle and Weight Management Service	Focus groups/1-1 or paired interviews ^a	1 x male (Halton) 1 x mixed (Barrow) 1 x female (Blackp'l) 1 x male (Manc'r) 1 x female (Knowsley)	5	Local Lifestyle and Weight Management Services	Gatekeeper support plus advertisement in and around local LWMS

^a Depending on participant preference

^b Gender groups selected at random across the five areas

^c A method of purposive sampling frequently used in health research (e.g. amongst smokers)

2.3 Methods

Interviews and focus groups were used to collect the qualitative insight. In terms of recruitment, Healthy Weight Leads from each of the five areas were contacted and invited to support the research. In the majority of areas, the Healthy Weight Lead was contacted, who then identified a number of gatekeepers to further support recruitment. These gatekeepers included Children's Centre managers and staff, Youth Workers, Children's Care Homes, Primary Schools and Lifestyle and Weight Management Services. These gatekeepers provided Participant Information Sheets to potential interview and focus group participants, and liaised with the research team to arrange convenient dates, times and locations for the interviews and focus groups to take place.

The majority of interviews and focus groups were conducted in a private room at the venue where the participants regularly met (such as at a 'Stay and Play' group within a Children's Centre, or during a session at a Youth Centre). Often, the gatekeeper or session facilitator was in attendance and in some instances input into the discussions. Interviews were audio recorded (with permission from the attendees) and lasted approximately half an hour.

In order to maximise the amount of data gathered, permission was also obtained from gatekeepers for members of the research team to invite people aged 16 and over to complete a survey; these survey participants were often people who were attending the venue (such as a Children's Centre) but not taking part in an interview or focus group. Survey participants were provided with both a written and verbal explanation of the project, and were asked to tick a box to confirm that they understood the purpose of the project and were happy to take part. In the main, participants completed the survey themselves, with the researcher on hand to explain any questions. In some instances, the researcher read the questions out to the participants and completed the survey on their behalf (this was the case where people requested this support, and also at some of the Children's Centre sessions, where parents were holding children). The surveys took between five and ten minutes to complete.

All participants provided consent to participate and permission for the interviews and focus groups to be audio recorded. Ethical approval was granted by the LJMU ethics committee (reference 13/HEA/067). Data collection took place between May and August 2013.

2.4 Materials

The specific topics for exploration in the interviews, focus groups and surveys were determined by a review of the literature, and interrogated attitudes, norms, perceptions, intentions and behaviours. Questions included: average amount of sugary drinks that participants felt they consumed per week and per day and participant's thoughts on this, factors that influenced current consumption (such as enjoyment, habit, social influence, family influence, environmental influence, economic influence), and general thoughts regarding tax on sugary drinks, exploring understandings of purpose and health-related benefits, exploring how and why this may change behaviour, and whether people felt this was acceptable. (See the Appendix for a copy of the interview and focus group discussion guides, and a copy of the survey).

At the beginning of each interview/focus group, all participants were asked to confirm that they had read a participant information sheet, and reminded that the discussion topics were not a test, and that there were no right or wrong answers. To set the context for the research, the first interview question asked participants about their understandings of the term SSBs. Here, the researchers clarified any misunderstandings and also provided examples of any other SSBs that had not been mentioned by participants.

As a large proportion of insight was gathered from interviews and focus groups with children and young people, it was important that the data collection activities were age-appropriate.

To ensure that the children and young people were aware of what was meant by the term SSBs, a game was devised that was undertaken at the start of the interviews. Here, researchers held up pictures of different types of drinks and asked the participants to group the non-SSBs in a pile on the right, and the SSBs in a pile on the left, and to leave any that they were unsure about in the middle. The researcher then discussed the pictures, moving them about, and explaining why drinks were or were not classed as SSBs as appropriate. The pictures were then used as prompts for the question which asked participants about the type of SSBs they consumed, as appropriate.

For the surveys, a description of SSBs was provided at the start, to ensure that all respondents understood the context of the questions.

2.5 Rationale for analysis

The qualitative interview and focus group data were analysed using a Grounded Theory approach. Although Grounded Theory is not prescriptive, the analysis must follow a structured approach. Comparative analysis is a fundamental concept for Grounded Theory, where the collection and analysis of data are done concurrently alongside one another. A three-pronged approach was then used for the coding and categorisation of the data, which was developed by Strauss and Corbin (1990) and described as providing opportunity for influences to be identified at both macro and micro-environmental level, therefore relevant to this study. Open coding was initially used to identify concepts as they emerged from the data through the perceptions, attitudes and experiences of participants. Line-by-line coding separated the data into concepts, which were then compared for similarities and differences. Concepts became grouped into categories, each of which represented an issue felt to be important to the participants. Categories were developed through the constant comparison with data. Axial coding was then employed to relate the categories, and started to generate understandings of the situations in which the experiences and perceptions of participants occur. The processes involved relate to the interactions that occur by a person, organisation or social setting in response to a certain issue. Once the axial coding had generated categories, sub-categories, and relationships and interactions between them, selective coding was undertaken to refine the theory. The survey data were analysed descriptively and statistically.

Analysis

The interview and focus group data were transcribed either verbatim or in note format. All data were anonymised and labelled according to area and characteristic to maintain confidentiality. The data were then coded systematically by the researchers into categories, allowing identification of key concepts which were then grouped together into themes. The analytic process involved trying to create an understanding of the circumstances in which health behaviours and choices were made. The coding paradigm considered participant's consumption of SSBs, how behaviours responded to various environmental factors in different ways, the interactions that occurred between participants and influences of SSB intake, and the consequences of these interactions.

The survey data were entered into the statistical software package SPSS to enable analysis. Spearman's correlations were used to test for significant correlations between variables, and a one-sampled t-test was undertaken to test for significant differences between those who felt a price increase would and would not change behaviour.

3. Findings

In total, data from interviews, focus groups and surveys were gathered from 293 people from across the North West of England, with the largest amount of data collected in Lancashire (n = 106) and Cumbria (n = 69); (Cheshire n = 48; Merseyside n = 41; Greater Manchester n = 29).

A total of 125 people took part in interviews and focus groups across the North West of England. Due to the addition of the booster samples in Cumbria and Lancashire, the highest number of in-depth interviews and focus groups was undertaken in these areas; in Cumbria data were gathered from Copeland and Barrow-in-Furness, and in Lancashire data were gathered from Blackpool, Burnley and Blackburn (Table 3).

Table 3 In-depth interview participant numbers, by area

Cheshire	Lancashire	Merseyside	Greater Manchester	Cumbria
n = 24	n = 49	n = 18	n = 8	n = 26

In the majority of cases, gatekeepers were able to recruit participants in accordance with the original sampling design, and in others this was not possible, so alternative arrangements were made. Specifically, it was often not possible to conduct male or female only focus groups, due to the size and/or nature of the groups attended by the research team, therefore mixed sessions were facilitated. Some gatekeepers also presented additional data collection opportunities, such as by inviting the research team to attend Children's Centre Open Days. Some data collection activities opened opportunities or ideas for additional activities, such as the inclusion of health professionals within the insight work. Data were also collected from an individual who had attended, and now facilitated, a Lifestyle and Weight Management clinic.

The young family and parent interviews were all conducted within Children's Centres. Here, the Children's Centre manager invited participants to attend an interview at a specified date, time and location, and provided participant information sheets to all potential participants. The interviews took place either before, during or after a regular session (such as 'Stay and Play', or 'Bumps to Babies').

Interviews with children and young people were held in Primary Schools or Youth Centres. Here, gatekeepers provided potential participants with details of the project, and invited them to participate in a focus group at a specified time, date and location. Any participants who were aged 16 or below were required to provide a consent form signed by a parent or guardian, and were required to provide verbal assent to participate before any data were collected. Table 4 provides an overview of the in-depth data sample characteristics.

Table 4 In-depth data sample characteristics, by area

	Parent interviews	Family interviews	Children's focus groups	Adolescent's focus groups	Lifestyle & Weight Manage't Services	Health and Social Workers
n	32	31	20	34	1	7
Areas data gathered from	Cheshire, Greater Manchester, Cumbria, Lancashire	Cheshire, Greater Manchester, Cumbria, Lancashire	Lancashire, Cheshire, Cumbria,	Merseyside, Lancashire	Lancashire	Lancashire, Cheshire
Sample characteristics	- 3 x parent interviews - 1 x focus group with	- 1 x family interview Interview - 4 x young	- 3 x primary school focus groups (children	- 3 x adolescent focus groups (adolescents		- 1 x interview with care home manager

	parents and carers from engagement group - 1 parent focus group	family focus groups	aged between 7 – 12)	aged 16+in youth clubs)		- 1 x interview with health improvement officer - 1 x focus group with family social workers
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In terms of the surveys, which served to supplement and further verify the findings from the interview and focus groups, data were collected from 168 participants, who were aged 16 years and upwards (Figure 1).

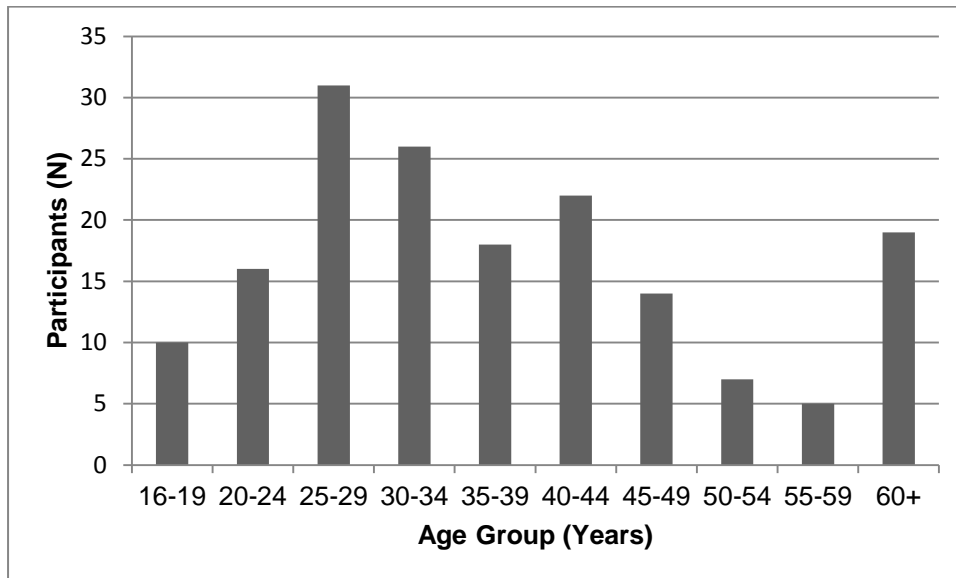


Figure 1 Age range of survey participants

More females (67.3%) than males (32.7%) completed surveys, which was largely determined by the sampling and recruitment selection (Table 5); mothers were more likely than fathers to be attending the Children’s Centres during the day, when the surveys took place. In order to ensure that some older males were represented in the survey, the research team attended sessions such as ‘Lads and Dads’ groups on a Saturday morning.

Table 5 Survey respondents: Gender split by area

		Male	Female	Total
County	Cheshire	3	21	24
	Cumbria	11	32	43
	Lancashire	17	40	57
	Merseyside	17	6	23
	Greater Manchester	7	14	21
Total		55	113	168

The majority of survey participants were White British (144/167, 86.2%), followed by Asian/Asian British (12/167, 7.2%) and ‘Other’ (5/167, 3%) (data are presented for 167 rather than 168 respondents, as one participant did not specify their ethnicity).

For the in-depth data generated via the interviews and focus groups, open coding was initially used to identify concepts as they emerged from the qualitative data. Line-by-line coding revealed that the data could be grouped together into a number of categories, which were then related to one another, using axial coding. Several processes emerged from the data as integral to our understandings of how a price increase on SSBs could potentially impact on behaviour change, and consequently, health. Key themes that emerged from the data related to consumption, health implications, behaviour change, acceptability, and education and awareness. Each theme is presented with subcategories to further define each theme. Quotes are presented to support each theme and subcategory, which are labelled according to participant characteristics.

The focus of the insight was on the in-depth data gathered through the interviews and focus groups, and the findings are presented to reflect this. The survey data are used to verify and support the qualitative data, and are reported on, where appropriate. The survey findings are described as being elicited through this method.

3.1 Consumption

Each interview began by the researcher asking the participants what they thought was meant by the term SSB. Here, participants tended to describe fizzy drinks, whilst some acknowledged that energy drinks and some fruit drinks also contained sugar. When children were asked to identify SSBs from pictures of drinks with added sugars and those without, some children were unable to correctly identify all the drinks that contained sugar. Younger children were mostly unable to correctly identify drinks that contained sugar and drinks that were sugar free, whereas older children tended to be more able to correctly identify if a drink had added sugar. In addition, some older participants seemed unaware of the sugar contents of some drinks with added sugar.

First thing comes to mind, I drink Cherry Coke, so I'm thinking cans of Coca-Cola or Cherry Coke. (Adult female, BI).

Should I give my daughter Fruit Shoots? I didn't know they had sugar in them. (Young mother with a nine month old baby).

How much [SSBs] should you drink? (Male, aged 10).

G3: I thought Fruit Shoots were sugar free cos they're fruit?

B2: I have Fruit Shoots in my packed lunch... (Mixed focus group, aged 6-10, B).

How much sugar is in them? (Male, aged 11).

A number of themes emerged from the data that were integral to the type, amount and characteristics of SSB consumption: existing behaviours, personal reasons for choosing to drink SSBs, family influences, social and environmental influences, and economic influences.

Existing behaviours

Participants were asked whether they drank SSBs. The majority of young people consumed SSBs regularly, with the most commonly reported drinks being fizzy drinks and energy drinks.

G1: Fanta

B1: Monster

G2: Red Bull

G4: All the ones you said earlier, all of them. (Mixed focus group, aged 16-17 Ka).

B3: Monster

B2: Red Bull, stimulation

B1: I do

B3: All of us here [drink SSBs]. (Mixed focus group, aged 16-17 Kb).

G1: American Cola

B2: Energy drinks

B3: Dr Pepper

G2: Pepsi

G3: Yeah Pepsi

G4: Vimto

B1: Lemonade and Fanta. (Mixed focus group, aged 6-10, B).

I: How often do you drink sugary drinks?

B2: About once a day

B3: Three times a week, it gives you wings

Head: ...Do you drink Red Bull?

B3: Yep. (Mixed focus group, aged 7 – 10, H)

I: Do you drink SSBs?

(all nodding)

B2: Yeah

B5: Yes

G9: I do

G5: We all drink them. (Mixed adolescent/young adult focus group, aged 17 – 23).

I: So how many of you drink these drinks [SSBs]?

P1: Me (All nodding with hands up). (Girls focus group, aged 7 – 11, C).

Participants who worked regularly with young people, such as Health and Social Workers described the high consumption of SSBs within the adolescents that they worked with.

I used to be a teacher in a secondary school and it was banned [energy drinks] as it was a big problem; young people would bring them in and sell them to their friends...they were very popular. (Youth centre worker, B).

For secondary schools, I did a health needs assessment, and what came out of that was 90 odd per cent of children in secondary schools are drinking energy drinks...and I'd say 50 per cent of the class are having two to three a day. (Community Health Improvement worker).

We've noticed, over the years, having worked in the care homes for a long time; that they are far more popular with young people than they ever were with young people, sugary drinks. So before it wasn't so much of an issue, whereas young people would be if they had it you know, pestering and wanting to drink it, so we just made it really so for health of the young people because we try to give them a balanced diet and we've got a duty to them to make sure we are educating them. (Female, Care Home Manager for Looked After Children, B).

[with young people] the energy drinks are going out the window, you know, the Monster's the Red Bull's and the cheap Red Bull's, and if they knew the education of what's in, and what effects it'll have on their life as they get older, then yeah. (Adult male, facilitator of nutrition courses, B).

Adults reported drinking SSBs on a less regular basis than adolescents and children, and some described the drinking behaviours of members of their family, friends, or amongst society in general.

I don't drink any of the sugary drinks...but I don't have it at my house or at the children's house as a drink that I would drink...I drink a lot of water. So it's only very occasionally. (Female, Care Home Manager for Looked After Children, B)

I mainly just drink water, sometimes I'll drink an alcoholic drink with sugar in it like cider, but no, I mainly just drink water, but sometimes I drink Vimto for the taste. (Young mother, M2).

Very very very rarely. Possibly once a month. I might share a bottle of coke with my husband because he drinks coke, but I will only have diet coke so...if he buys a bottle, like we get a takeaway or something...if he buys a big bottle; I'll probably have a glass of it. But that's it. Probably once a month. (Parent of a 9 month old, H).

P2: Very occasionally I'll drink it

P3: I have cordial and flavoured watered sometimes. (Parent and carer focus group, H).

To be honest, if we drink anything, its diet coke cos that's the only thing, but we don't, we're very, very reluctant to buy drinks with bubbles, we call it. (Mother of two young girls aged 8 and 4 years, H).

But then like my other friend, she's got three little girls and she just drinks coke like its coming out of her ears, and her little girls think that's normal, where I suppose cos they came round to my house a couple of weeks ago when it was nice, and they were like 'have you not got no coke' and I was like 'no I've not got coke, I've got juice.' So it doesn't really, you know, some people have to have a drink of coke, that's not something I really drink. (Mother of two young girls aged 8 and 4 years, H).

I: Do any of you drink any SSBs?

P1: I drink lots; a couple a day...I drink Coke.

P3: Probably one a day. (Parent focus group, C2).

I tend to drink diet coke but that's because of the caffeine, I need it for work, I work shifts so I find I need it near the end of the shift, to help me stay awake. (Young mother, M3).

P3: He [young child] doesn't drink fizzy drinks, but he does drink squash and fruit shoots

P1: Yeah she [young child] fruit shoots and that but she doesn't have coke. (Family focus group, C2).

P2: The kids might get a lemonade when we're out, but we don't usually have it in the house

P5: Yeah my kids just have milkshakes and fruit shoots

P1: I just drink Coca cola and that's my once a week treat. (Family focus group, C2).

The frequency of SSB consumption was supported by the survey data, which showed that 76.2% of respondents (128/168) reported that they drank SSBs; 37.5% (48/128) on a daily

basis, 39.8% (51/128) on a weekly basis and 22.7% (29/128) on a monthly basis. There was no significant correlation between the amount of SSBs consumed and area ($r(166) = .002$, $p = .976$), indicating that the reported levels of consumption were consistent across the North West.

The adolescents who drank SSBs described in the interviews how they consumed these on a very regular basis, often daily, and with some exaggerations of how much they drink. The young children (aged between six and ten) explained how they would drink SSBs either every day, or on the odd day. One child described how they were only allowed to drink SSBs on the weekend, because it kept them awake at night, which disrupted their sleep in the week.

I: How often do you drink them?

B4: Once an hour

I: Once an hour?

B4: All day

I: Yeah? What kinds of drinks would you drink?

B4: Whatever's in the fridge

B1: Do you really drink that much sugary drinks?

B4: Yeah

G2: So it's daily really isn't it?

B4: Once an hour though?

B2: Every time I go the shop

G2: Just buy a drink

B2: Every time I'm thirsty. (Mixed focus group, aged 16-17 Kb).

I: How often?

Everyday

All the time

Regularly. (Mixed focus group, aged 6-11, B).

B1: Sometimes I have it for dinner. (Male, aged 7, B)

I: how often do you tend to drink these kinds of sugary drinks would you say?

G3: At the weekend

I: At the weekend. And why do you drink it at the weekend?

G3: Because it keeps me awake at night... I don't drink it in the week because it makes me stay awake at night. (Female, aged 9, B),

B2: Usually every day. (Male, aged 8, B).

B1: I drink about four or five energy cans a day

G1: I'll buy bottle of coke and that during the day. (Mixed adolescent/young person's focus group, B).

I drink them [SSBs] mostly in the evenings when it's quiet, I think, oh I'll have a can of pop. (Adult female, B).

These findings were largely supported by the survey data ($n=168$), with people aged 16-19 reporting a higher frequency of consumption than other ages. Respondents aged between 50 and 59 years did not report drinking SSBs daily, only weekly or monthly (Figure 2). The correlation between age and reported consumption was significant ($r(166) = .176$, $p = .047$).

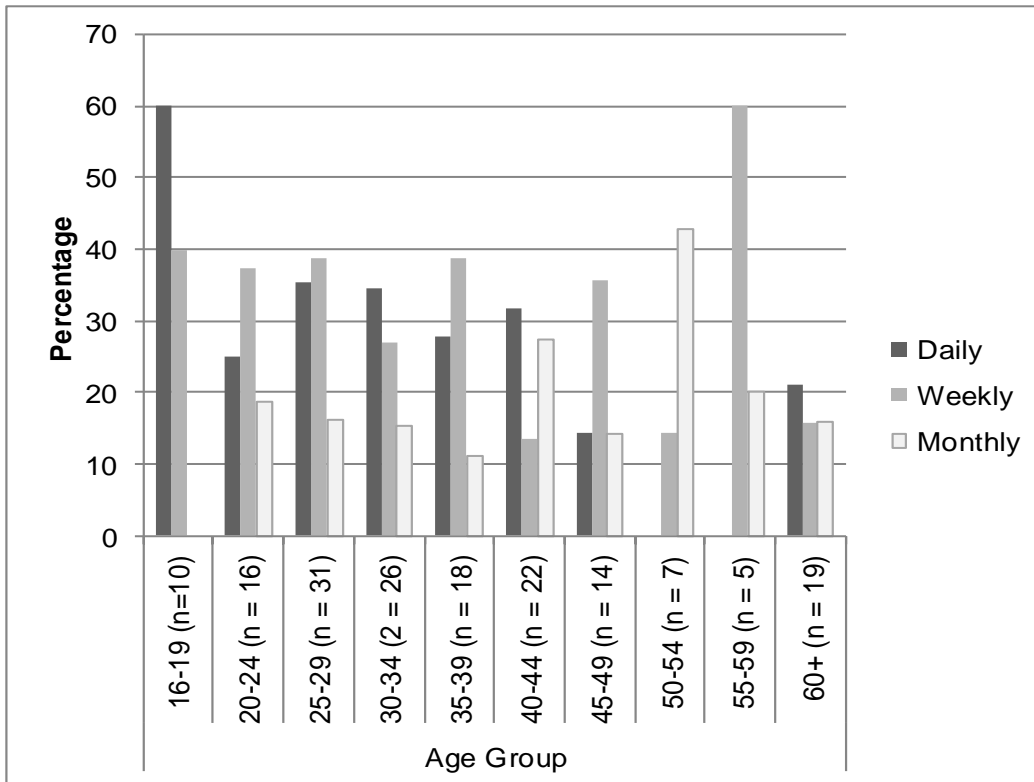


Figure 2 Reported frequency of SSB consumption by age

In the interviews, adults who were consulted with who did not drink SSBs very regularly or at all were asked whether they had ever drunk SSBs and what they drank instead. The majority described how they drank water, tea or coffee instead. Just over half of survey participants who did not drink SSBs reported that they had drunk them in the past (60%, 24/40), and 43.2% (16/37) of the survey participants said that they drank diet drinks instead of SSBs.

One adult who took part in an interview described how they had attended a nutrition course as part of a Lifestyle and Weight Management Service (LWMS) that they had attended, where they had learned about the sugar content of SSBs. This person described their knowledge of the sugar content in SSBs.

Over the times I've been attending this nutrition course we've looked at levels of sugar in drinks, we've looked at how the carbohydrates on the labelling are put down as carbohydrates and then converted into sugars, well if you half that, if there's 8 grams of carbohydrate in it that means there's 4 teaspoons full of sugar in that alone. (Adult male, attendee at LWMS service, BI).

These adults who drank little or no SSBs were also asked about the consumption behaviours of their family members, partners, and friends.

People might think they taste nice, and it may make them happy because it tastes nice, but I don't...I mean I'll have one every now and again, but I am not an addict who has to drink a can of coke a day. Whereas my husband will easily drink a can of Coke a day... He [husband] drinks Coca Cola like it's going out of fashion! He's terrible for it. He's awful. (Non-SSB drinker, parent of a 9 month old, H).

The person who had attended the LWMS course, who now facilitated these sessions, described how they knew a lot of people who regularly drank SSBs prior to attending the course.

I have clients who have converted from drinking large amounts of sugary drink to drinking healthily....we do what's called a Wellness Evaluation....we are independent nutrition coaches and distributors and for our clients we put them through a wellness assessment that measures the body from the inside out....we educate them about sugary drinks and sugar. We also talk about what they put in and what they should be putting in. We get amazing results from people. (Adult male. LWNS attendee, BI).

Personal reasons for choosing to drink SSBs

Reasons provided by the interview participants for consuming SSBs varied by age. Young people described how the main reasons that they consumed these types of drinks were mainly for taste and energy reasons.

B1 & B2: Taste nice

B3: Dry mouth

B4: Keep your sugar levels up

B2: Thirsty

B1: Less bland than water

B5: Energy (mixed focus group, aged 16-17 Kb)

G1: Taste nice

G2: Yeah cos the taste

B1: Energy

G3: To refresh me. (Mixed focus group, aged 16-17 Ka)

I: Why do you drink it? Is there any particular reason?

B1: Because it tastes nice [others nodding]

G2: Tastes nice

I: You agree. Any different reasons?

[no]

I: So it's mainly cos it tastes nice?

[nodding] (Mixed focus group, aged 6-10 B).

I: Why do you like to drink them?

B5: It's to give me that push in the day, if I feel like I need some energy then I'll have one

B1: I just drink energy drinks because I like the taste of 'em

G1: I sometimes buy a can of coke if I'm hungry, or if I'm busy during the day and I don't have time to eat...I'll get an energy drink to give me a boost (Mixed adolescent/young person's focus group, aged 17-23, B).

P2: Me? I drink Red Bull, to keep me going in the day, to keep me going with three under sixes! (Parent, family focus group, C2).

I: Why do you drink them?

B2: They taste nice... I drink Sprite, just like the taste

B1: They get you hyper (mixed focus group, aged 7 – 10, H)

Coke tastes nice, when it's all nice and cold. (Parent, parent and carer focus group, H).

P2: I like the taste

P5: I'll have a red bull if I need the energy. (Parent focus group, C1).

I: Why do you like to drink them?

It's because it's something I've always done, and I like the taste. (Parent, family focus group, C2).

P3: I drink diet coke because it gives me a bit of energy. (Parent, parent focus group, C2).

Those participants who did not drink any SSBs were asked why they thought that people drank them, and why they chose not to. For younger people, the reasons were predominantly due to the fact that they did not like the taste. Older people tended to cite health implications as the reasons for not drinking SSBs.

Occasionally in my pre child years...I've been in work with a hangover and had a bottle of Lucozade...quite often people's hangover cures are a can of coke, because it give you that sugar spike, it gives you the caffeine and kind of gets you through the day. (Non-SSB drinker, parent of a 9 month old, H).

G3: They're horrible

I: What do you drink instead?

G3: Stuff like water and milk and tea. (Mixed focus group, aged 16-17 Kb).

Sugary drinks are something that makes you burp a lot and I don't really like the taste of sugary drinks. (Female, Care Home Manager for Looked After Children, B).

I drink water by the bucket-full, and decaf tea. (Non-SSB drinker, parent of a 9 month old, H).

it's always cordial we tend to have, juice or cordial, they do drink a lot of pure orange juice and apple juice, cos they like that, but if you ask [child's name] what she wanted, her preference would probably be water. [Other child] not so much, she'll likes like a cordial drink, but [older child] she would just drink water every day all day. And even before bed, she'll say can I have a drink of milk, or can I have a drink of water. (Mother of two young girls aged 8 and 4 years, H).

If any of my friends or anything ever have a bottle of coke, if I taste it, you can just taste it, it hits your teeth straight away, the sugar, so I've always, if I do get a drink its always diet coke, but again, I prefer to go and get a bottle of water really, a bottle of water or a juice or something rather than a bottle of pop. (Mother of two young girls aged 8 and 4 years, H).

Tooth decay, that's probably the main reason, because it makes you need fillings. That and weight gain. (Young mother, M2).

These findings regarding consumer behaviours were again largely supported by the survey data (n=69), with the majority of respondents reporting that they consumed SSBs because they liked the taste (58.4%, 69/118). Older respondents were more likely to describe that they consumed SSBs as a treat or for energy (Figure 3).

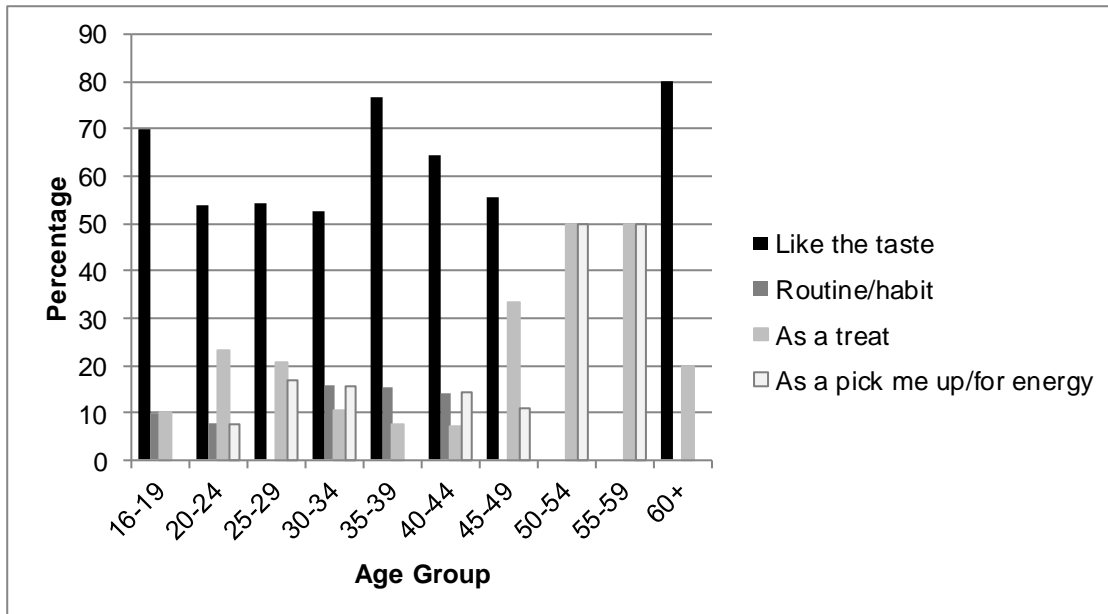


Figure 3 Reasons for consuming SSBs, by age

The survey respondents who did not drink SSBs stated that they did so for health reasons (21/36, 58.3%) (three survey respondents stated that they had diabetes or another health condition that meant they did not drink SSBs, two people stated that it was bad for their teeth, and one person stated that it was due to weight) or because they did not like the taste (14/36, 38.9%) (four people stated that their taste preferences changed as they grew up). In addition, one person stated that they did not drink SSBs due to weight, and two people said that they were too expensive.

Family Influences

There were a number of issues that emerged that were categorised as family influences. Often, for families, parents and adults, SSBs were perceived as having a negative impact on health, and therefore were seen as something that should be consumed as a treat.

They [the children] have a drink with bubbles on a Sunday at Nanny's house when we have a roast dinner, and that to them is the girl's treat, and they always say 'can we have a drink with bubbles cos it's Nanny's house. (Mother of two young girls aged 8 and 4 years, H).

Yeah we don't purchase them [SSBs] within the house and that goes for my home as well; sugary drinks, energy drinks, or any pop; when we do our weekly shop, we don't purchase them. There may be the odd occasion, like when the young people went on holiday to Butlins last year, so as a treat when they went out, if they went out and had a MacDonaldis, they were allowed a glass of Coke. But it's having an occasion, that special occasion. (Female, Care Home Manager for Looked After Children, B).

My children have a lot of fruit juices and they're full of sugar, I'm trying to get them to drink more water but it's hard. (Adult female, BI).

Some of the children and young people described how they obtained money from their parents to buy a sugary drink. Some described how their parents bought the SSBs from the shops and that it was something that was often just in the house.

G4: My parents buy it

I: Yeah, so your parents buy it [others nodding] and is that quite similar for the rest of you?

All: Yeah. (Mixed focus group, aged 6-10, B).

I: So do you buy these drinks? Or are they something that your parents buy for the family home?

G5: They're bought for the family home

I: Do any of you ever buy these drinks with your pocket money?

G1: Yeah

G3: I do, from the shop. (Girls focus group, aged 7-11, C).

Do you parents drink it? Do they buy it cos they like to drink it? And then it's just something that's in?

All: Yeah.

G3: My Mum drinks a lot of Lucozade and energy drinks. (Mixed focus group, aged 6-10, B).

Do you buy them with your pocket money?

B3: If I ask my mum, I'll get some and go and buy some Coca-Cola, or Coke Vanilla. (Mixed focus group, aged 7-10, H).

B1: If my mum gets it [energy drinks] she just gets me a crate of twenty four...I drink it mostly at home. (Mixed adolescent/young adult focus group, B).

G6: My house, it's just me, my brother and my Mam, and we always have like one two litre bottle of Pepsi each. (Girl, girls' focus group, aged 7-11, C).

B1: I ask my Dad for a pound and I get a bottle of coke. (Mixed focus group, aged 6-10, B).

B2: I do chores for my mum and dad, and at the end of the week if I've done as I'm told...I get a choice; I either have Coca-Cola or Sprite. (Mixed focus group, aged 7-10, H).

Health professionals described how after speaking to young people and families, they discovered how some families would buy SSBs in large quantities for the household.

Speaking to quite a lot of the young people; I was really surprised at how many [SSBs] their parents buy; they do seem to be buying in large quantities... Some of these families have been brought up for years on fizzy drinks... (Community Health Worker, H).

The amounts these people are buying! It's unbelievable, stack of sugary drinks, for them, and their kids... (Community Health Worker, BI).

They [families] are drinking a lot... (Community Health Worker, BI).

Older people often discussed their experience of SSBs when they were younger, and then described how this had influenced whether they or their families did or did not consume SSBs as an adult.

I've never been a big fan of sugary drinks, I was always brought up on, and I drink a lot of water, and I always did...I think it's because it's easier to drink.

Because it's quite fizzy sugary drinks...so personally, no. (Non-SSB drinker, parent of a 9 month old, H).

I would never have a bottle of pop in the fridge, just to have during the day...my mum's the same, she never has pop. Pop to me when I was growing up was a treat, and that's what I see it as for the girls. If we're going out to a restaurant or anything we let them have a drink with bubbles then. (Mother of two young girls aged 8 and 4 years, H).

I would never dream of going to the shop and buying them a drink of pop, that's just, I would never ever do that.

I: Why would that be? Is there any particular reason why it's just as a treat and it's not an everyday thing?

P: I think cos I was brought up knowing it was full of sugar, it was bad for you. So, I've always just sort of thought that, and I've always only ever ever had diet drinks. (Mother of two young girls aged 8 and 4 years, H).

Well I always had it when I was younger so I think now...if I just fancy a can of coke to treat myself...just because it's a bit of fizz. (Youth Centre worker, B).

My parents used to buy it, and I was a child of the seventies, so I grew up in the 80's getting Cream Soda Pop and Iron Bru, and it was the drink of choice to a child that grew up in the 80's, soda streams were all the rage and if you owned a Soda Stream machine...so it was...fizzy drinks were the main drinks when we were growing up. It was just the only thing that was always there to drink; there was always pop in the house. And that was always the case. We weren't often encouraged to drink anything else, I think it was when I came into my early twenties I kind of realised that actually one, I don't want the empty calories from that sort of drink. And two, if I keep drinking like this, my teeth are just going to get worse and worse. (Non-SSB drinker, parent of a 9 month old, H).

I buy them from supermarkets; I buy Coke, three for £3, I buy about twelve bottles. That's all my husband drinks though. And his mam was the same, she only lived on Coke... My cupboards are always full of them! (Parent, parent focus group, C2).

For me, I always had a fizzy drink as a treat when I was younger, after we'd been swimming. (Young mother, M1).

Social and Environmental Influences

Young people described how they tended to drink SSBs when out, either at school, on their way home from school, or with friends. Those that drank energy drinks reported drinking them for energy and for sports, and this tended to be the boys only. Young people often described how they would buy a SSB when they visit the local shop, either alone or with friends.

B1: Usually when you're walking home after school, you just go and get one

B2: Sports

B1: Yeah

B3: At home. (Mixed focus group, aged 16-17 Kb).

I: And where do you drink these the most?

G2: At home

G4: When I'm normally out with friends

G1: Mostly I drink it on the school bus, so I just go to the shop and then just go to the bus stop. (Girls focus group, aged 7 – 11, C).

I: Is it when you're with anyone in particular?

B2 & B3: Doesn't make any difference (mixed focus group, aged 16-17 Kb)

B1: If I'm getting it [energy drinks] myself, then I'll just buy one at a time. If my mum gets it she just gets me a crate of twenty four... (Mixed adolescent/young adult focus group, B).

I've heard of schools having vending machines; they should be banned...the more accessible you make it the easier it is for them to get their hands on. (Care Home Manager for Looked After Children, B).

I: Where do you feel young people consume these SSBs most?

On their way to school; a lot of them are having it as breakfast. (Community Health Improvement Worker, H).

Any particular time of day?

G1: The middle of the day

G2: Like lunchtime, yeah

G1: With your meals and stuff. (Mixed focus group, aged 16-17 Ka).

I: Every day. And is it any particular time of day, is it when you're at school or when you get home or?

B2: When I get home (Male, aged 8, B).

Gs: Buy them when you're out

Gs: When you're out

I: Where do you buy them from?

G1: Supermarket

B1: Tesco

G2: Newsagents

I: Do you buy them yourselves?

All: Yeah. (Mixed focus group, aged 16-17 Ka).

B3: Sometimes when I'm playing out I go to the shop. (Male, aged 7, B).

B3: I sometimes buy me own and sometimes when I'm out with me friends. (Mixed focus group, aged 6-10, B).

B3: I drink them in the streets usually...after school

B2: After school...or when you are walking to school. (Mixed focus group, aged 7-10, H).

Some of the older participants described how they would drink SSBs when socialising, or as a mixer in an alcoholic drink.

I will say if I am out socialising with friend I will drink it as a mixer in an alcoholic drink. (Female, Care Home Manager for Looked After Children, B).

It's more social circumstances as well; if you are out and you are having a drink... (Parent, parent and carer focus group, H).

B2: I drink it right before a night out.

G12: If I'm not drinking on a night out I'd usually go for a red bull, to keep up with drunk people. (Mixed adolescent/young adult focus group, B).

During the parent and family interviews, the parents were asked whether they allowed their children to have SSBs. One interviewee described that they actively avoided giving sugary drinks to their child, and was shocked to find it in an over-the-counter medicine.

Do you know the scary thing, I went to the pharmacy to get her some Calpol the other day and he said do you want the stuff with sugar or without? I don't even give her the baby fruit juices and stuff like that, I won't give her anything like that, she gets water or milk. (Non-SSB drinker, parent of a 9 month old, H)

Participants also made unprompted reference to the availability of SSBs, speaking of how they were often readily available and easy to buy.

If I'm in the pub and I'm having a soft drink, there's not always a lot of choice so I might have a glass of Lemonade. (Mother of a 9 month old, H).

P2: I tend to buy fruit shoots if I'm out, if the kids want a drink

P1: Yeah because that's what they're selling in restaurants and cafes

P2: It's just easier getting a bottle of Coke when you are out than carrying your own bottle of water around. (Parent focus group, C2).

I: And why do you drink these drinks?

G4: Because they're easy to get hold of... (Girls focus group, aged 7 – 11, C).

G3: It's in every drink though; even if you are at a bar...you have Vodka and Coke or Malibu and Lemonade...you can't really get away from it even if you are on a night out. (Mixed adolescent/young adult focus group, B).

I'll get it [SSBs] for the kids usually if we are out somewhere and there are no other choices. (Parent, family focus group, C2).

If you are out and about, a lot of places don't cater for children, and they have the fruit shoots, well he drinks them, and they are that sweet...and when they drink them, it's gone! Because they think; 'Whoa! This is amazing'. And that's all they sell. You can get water but sometimes that's not suitable for little children, you need something that is suitable for them. (Parent focus group, C).

Economic Influences

When participants were asked why they drank SSBs, a number of economic factors were elicited. Some of the adolescents described that they drank the SSBs because they were cheaper, with one group discussing that they would not buy drinks from vending machines due to the price. Adults described that would tend to drink SSBs if they were discounted, or as part of a 'meal deal'.

I: So it tends to be shops, do you go to vending machines?

G3: Shops

G1: Vending machines are so expensive aren't they? (Mixed focus group, aged 16-17 Ka).

I only get them really when they're on offer, I do only tend to get them when they're on offer because they are so expensive, I just treat meself and think oh yeah go on. (Adult female, B).

G3: *Trying to think about the cost of it though, its cos they're cheap*
B2: *Well whoa 59p for that [points to an own brand bottle of energy drink]*
G3: *Yeah you can like a full pack can't ya... (Mixed focus group, aged 16-17 Ka).*

P: He gets a crate of cans of Coca-Cola, from Costco, and if we do like a Domino's pizza order you get a litre bottle with the order.

I: So that's like a deal?

P: Yeah.

I: So would you say that he buys it because it's discounted? So it's like a deal? Would he buy that usually if it was at full price?

P: Yeah he would. He would buy it at full price as well. If we stop off at a shop and I say do you want a drink, he'll say yeah I'll have a bottle of Coke, and he'll pay the full price for it. He has probably paid up to £2 at certain events, he will always buy it at the full price as well. His drink of preference will always be a can of coke. (Non-SSB drinker, parent of a 9 month old, H).

B1: If my mum gets it she just gets me a crate of twenty four because it's only six quid (high consumer of energy drinks, mixed adolescent/young adult focus group, B).

G8: Yeah I get Coke if it's on offer; like a pack of six for £1.99

G1: I'll get the unlimited Pepsi deals at pubs, if I don't want to drink...so I'll drink as many as I can. (Mixed adolescent/young adult focus group, B).

Where would you say you buy these drinks?

P2: Cheapest as possible (laughs); Home and Bargain or something, if they have a special deal.

P4: They always have deals on coke, buy one get one free, they're everywhere!

P1: Yeah you can't buy one bottle can you; you have to buy two or three. (Parent and carer focus group, H).

Dr. Pepper, Iron Bru; I drink anything that is on offer. Whatever is on offer we buy...because they're cheap and nice. I buy them from supermarkets; I buy coke, three for £3, I buy about twelve bottles. (Parent, parent focus group, C2).

I: And why do you drink these drinks?

G1: Because they're cheap... (Girls focus group, aged 7 – 11, C).

3.2 Health Implications

Interview participants were asked whether they thought that SSBs had any impact on health. A number of issues were discussed here, and themes included dental health, impact on sugar levels, caffeine, positive health impacts, and the relative contribution of SSBs to health. Participants' immediate response was to focus on negative impacts, and all spoke about how SSBs had a negative impact on dental health. Participants then spoke about how the SSBs could have an impact on blood sugar, with some describing how they thought it could affect the heart and other organs. Only a small number of participants described the impact of SSBs on obesity. Participants also spoke of how SSBs gave them energy, and that they would drink SSBs if they needed energy. Older participants described how they would drink SSBs if they needed to raise their blood sugar levels, with one parent describing how they needed to drink SSBs when they had gestational diabetes during pregnancy.

Impact on dental health

Most participants interviewed described the negative impact of SSBs on dental health, all of whom were confident in stating the association between sugary drinks and poor dental health. Children and young people described how sugary drinks could damage teeth, and

parents often described how they would not let their children drink sugary drinks because of the negative impact on teeth. Some participants provided personal examples of how SSBs had affected their dental health.

P: Yeah, it affects your teeth, it's not good for your teeth

I: Anything else?

P: Just, really not good for your teeth, so your dental health. (Mother of two young girls aged 8 and 4 years, H).

She's just getting her teeth; let's not rot them before they come through. I'm a massive fan of not giving her excess sugar, to the point that she can have a little bit of sweet things every now and again, but it's not going to be part of a stable diet; she can get the sweeteners from fruit and stuff like that, and not have to have fruit and cake and stuff like that. (Non-SSB drinker, parent of a 9 month old, H).

And there is teeth as well, that's a negative because we are for taking the kids for regular check up at the dentist...so that's a negative that I haven't mentioned yet, the effects on their teeth. (Female, Care Home Manager for Looked After Children, B).

B4: Damage your teeth

B2: That's the bad thing

B4: It is. (Mixed focus group aged 16-17 Kb)

B2: Teeth! Bad for them.

B3: It's like acid so it burns things...(Mixed focus group, aged 7-10, H).

B2: It has loads of sugar, can rot your teeth away (mixed focus group, aged 6-10, B).

P4: Dental health...dental problems. (Parent, parent and carer focus group, H).

P1: Your teeth

P4: They're bad for your teeth. (Family and parent focus group, C2).

P6: Teeth; that's the first thing I think of with sugary drinks. (Parent, parent and carer focus group, C).

P1: There was a dentist...saying if people want to drink fizzy drinks, she suggested a straw so it goes past their teeth. (Family focus group, C2).

G1: Your teeth... (Girls focus group, aged 7 -11, C2).

I don't drink sugary drinks because of the effect it has on your teeth, tooth decay, fillings and that. (Young mother, M2).

Sugar and additives

Participants often spoke of sugary levels in relation to energy, acknowledging the changes in energy levels that can occur as a result of consuming sugary drinks. One interviewee had attended a LWMS and now facilitated nutrition courses. This person was very knowledgeable about the negative health impacts of SSBs.

[If they don't drink SSBs] they're not yo-yoing and dipping and spiking and dipping, you know every time they have a sugary drink they shoot up and once that's worn off they go back down again. (Adult male, LWMS attendee, B1).

I suspect that people may start having more sugar crashes and things like that, you know, putting down any lapse in energy down to that fact... 'ooh I had a diet coke before and now I'm knackered, I needed that energy boost.' Because I think it become a habit, and I think in some people's cases, and don't quote me on this scientifically, it becomes a bit of an addiction. To have that can of soft drink, to have that sugar spike, and then you crash...and you maybe have another can of something to do the same, and it's not just the Coke that's the issue...it's the can of coke which goes with the bag of crisps and the bar of chocolate and everything else. (Mother of a 9 month old, H).

G9: I think sometimes you have a sugar crash...like a slump

G1: It can give you headaches as well; too much sugar. (Mixed adolescent/young adult focus group, B).

G2: Give you highs and lows

G3: Diabetes with all the sugar

G2: Gives you loads of energy and then you feel tired so then you need another peak

(Mixed focus group, aged 16-17 Kb).

B1: Bad, sometimes it can make you feel ill

I: Can it.. why can it make you feel ill?

B1: Cos of the too much sugar. (Mixed focus group, aged 6-10, B).

G1: ...if you drink too much of it then it's not gonna be good for you; too much sugar is never good for you is it... (Mixed focus group, aged 16 – 17).

General negative health impacts

Participants described some of the negative health impacts that they were aware of, although many did not specify particular reasons behind their understandings.

B1: Bad for your organs...cos it's dead fizzy

B2: Bad for your heart, like Red Bull can give you a heart attack, can't it?

B3: It gives you wings

B2: It can kill ya, it was in the paper, someone who drank six cans and it killed them, type it in on Google

G4: Do you think of like when you dip a penny into coke and it cleans it, it makes you wonder what it does to your insides really

GL: They use coke for cleaning car engines, for cleaning grease off car engines and stuff

B1: They clean blood off the road with it. (Mixed focus group, aged 16-17 Kb).

People say to me, put it down your drains, see what it does to them and think about what it does to your insides, it's like oh my word! (Adult female, B1).

B2: Bad

B3: They can't be good. (Mixed focus group, aged 6-10, B).

G2: If you drink energy drinks a lot you might get a heart attack, that's what my brother says. (Female, aged 8, B).

Can you think of any health effects of drinking SSBs?

P2: Well it cleans jewellery doesn't it; so imagine what it's doing to your insides

P5: Diabetes... (Parent, parent and carer focus group, H).

B2: I think people can get addicted to them

G1: Diabetes... (Mixed adolescent/young person's focus group, B).

G3: Diabetes...

(pause)

G4: ...I think it can make your skin go like, weird. (Girls focus group, aged 7-11, C).

It puts pressure on the pancreas, creates obesity and diabetes. (Adult male, LWMS attendee, B).

Caffeine

Many participants associated SSBs with caffeine and discussed the health implications of this.

No. Bizarrely, I don't drink caffeine, so a lot of them have got caffeine in them. So like you Lucozade, Coca-Cola, lemonades...so I completely steer clear of them for that reason. (Non-SSB drinker, parent of a 9 mth old, H)

I: So would you say that SSBs aren't allowed because of those health reasons? Yeah because of the health reasons, and also because of the impact of caffeine on behaviour, you know increased caffeine and what it can lead to; sweat, shakes, diarrhoea, behaviour and then the high and then the low. The staff are more aware of the impacts on health and also the impact on behaviour, and of course that affects other people. (Female, Care Home Manager for Looked After Children, B).

We've banned them [energy drinks] in our office; they are not allowed in our office...if young people are low on energy then they need to do other things to pick them up...they can lead to behavioural problems...especially in a youth area if you give them energy drinks then they are going to be wired and hyper. (Youth Centre worker, B).

I think the only other thing is as well, you just don't get the hydration from them like you do from water, you stick a load of caffeine and sugars in your system and you just pee it all back out again. So there isn't that benefit to it. That's all I can think of at the moment to be honest. (Non-SSB drinker, parent of a 9 month old, H).

The caffeine as well, is that like a bad health effect, they could be addicted to the caffeine... (Parent, parent focus group, C).

The energy drinks with the caffeine; they make your siblings hyper! (Female, girl's focus group, aged 7 – 11, C).

A lot of people are addicted to caffeine; I don't think a tax would stop anybody because they are addicted. (Parent, family focus group, C).

I'll have a Coke and a chocolate bar and I'll have it because I need the caffeine to keep me awake. (Young mother, shift worker).

Impact on obesity

Very few participants described the relationship between SSBs and obesity. One female mother described that they opt for the diet version because it contains less calories, and a group of young mothers described that they did not drink SSBs because of the association with weight gain.

And it is a health thing; I wouldn't drink a full fat drink because I'd go for the diet version, because it's got less sugar in and because it's got less calories in. (Non-SSB drinker, parent of a 9 month old, H).

*M1: For me it's the weight gain, why I drink the diet ones instead
M2: Yeah the calories. (Young mums focus group, M).*

Well obviously it's the weight, with the sugar. (Adult female, Bl).

*I: Do you know of any effects of SSBs on health?
P4: Yeah, like obesity and stuff? (Family focus group, C2).*

I wouldn't dream of drinking full fat full sugar, just because of the calories. (Children's Centre worker, C).

All that sugary drinks do is the bubbles turn into fat and they suck the calcium out of the bones, to put it bluntly. (Adult male, LWMS attendee, Bl).

Positive health impacts

Participants did not often mention excess calories and weight gain from SSBs, however, the majority of those interviewed did recognise that SSBs gave them extra energy, indicating that this was a positive effect of consuming these drinks. Here, these factors tended to relate to energy and alertness, and was often reported by the younger participants, who also tended to consume more energy drinks. The use of SSBs for sporting reasons was also mentioned by some participants.

*B1: Gives you energy doesn't it
B2: Sometimes. I don't know if that works
G4: Well I used to drink like a large McDonalds Coke every day for about a month one time and I used to think that it'd wake me up in the morning
B2: And did it?
G4: Yeah, I was like that [widens eyes and dances in her chair] (mixed focus group, aged 16-17 Kb).*

G1: It gives you energy when you need it. (Mixed focus group, aged 16-17 Ka).

B1: If you've got your tests and you're really tired you can drink it and it'll make you feel like, all open, more awake. (Male, aged 7, B).

Well I think what we had looked at...we looked at the difference between energy drinks, and sports drinks, because I know some of the sport drinks do help hydrate the body and they don't have any caffeine in them...so sometimes they can help people who do sport because they do help hydrate. (Female, Care Home Manager, B).

*P9: It gives you energy sometimes
P2: A bit of a boost... (Parent and carer focus group, H).*

P: Yeah well when I was pregnant I was diagnosed with diabetes, so I used to get really low blood sugar, so I'd drink a sugary drink and it would regulate my blood sugar, so yeah I suppose there are good things about it. (Non-SSB drinker, parent of a 9 month old, H).

G3: [Drinks SSBs] at the weekend...because it makes me stay awake at night. (Mixed focus group, aged 10 – 11).

G2: Gives you loads of energy and then you feel tired so then you need another peak. (Mixed focus group, ages 16-17).

I drink coke generally because when I am out and about and I need the energy, it's easier to drink that...and I feel it's better for me to have a coke than it is to have a chocolate bar. (Parent focus group, C2).

G3: They can sometimes give you energy

G4: Yeah like a sugar rush. (Girls focus group, aged 7 – 11, C).

*G1: When you drink one of them, you're all crazy, you're all hyper and everything
B2: If you drink that it gives you wings so you can fly. Some of those drinks cure you when you are poorly...like when you are all down and everything they erm like help you and give you more energy. (Mixed focus group, aged 7-10, H).*

...the secondary school that I have been in is a sports college, so a lot of them are very sporty...and they actually believe...that it makes you run faster if you have Lucozade as opposed to water. (Community Health Improvement Worker, H).

Relative contribution to health

Some participants, including adults, adolescents and children, described how they felt that although SSBs are bad for health, there were other foods, beverages, and lifestyle behaviours that could also have a negative impact on health. Often, participants felt that there were more pressing issues that had negative implications for health, than SSBs. A number of participants, both adolescents and older adults, discussed how any negative health impact would depend upon the amount of SSBs consumed.

I: Why good?

G1: Cos sometimes drinks that are bad can be sugar-free (Girl, aged 9, B).

G1: It depends how much you drink them, if you drink too much of it then it's not gonna be good for you...too much sugar's never good for you is it. (Mixed focus group, aged 16-17 Ka).

B3: You've gotta think though with the fizzy drinks like that there's always bad effects but they can be counteracted by other things you do in daily life like sure it can damage your teeth but you can brush your teeth, and they've got sugar in them, but if you do enough exercise it burns it off anyway. (Mixed focus group, aged 16-17 Kb).

B3: It probably does a lot to your teeth and that but considering in your stomach you've got acid in there which is more potent than a lot of things that would be allowed in fizzy drinks, I mean all the acid and stuff like that probably dissolves with the acid itself in your stomach, I mean it probably does damage to at least the stomach and then stops... I don't know. (Mixed focus group, aged 16-17 Kb)

I don't like the taste of water, so rather than drinking nothing, drinking lemonade is the next best thing. (Young mother, M1).

3.3 Impact of a Tax on Behaviour Change

Participants were asked whether they felt that an increase in the price of SSBs would affect the amount that people consumed. Key themes that emerged from the data included budget, inconsistencies in price, and substitution effects. For those interviews that were undertaken with adolescents and adults, participants were asked whether a twenty per cent increase in price would have any impact, and were given the specific example of a 500ml bottle of Coke being increased from £1.15 to £1.38. If interviews were undertaken with participants who had said they did not consume any SSBs, then they were asked to think about how this may affect the behaviours of someone they knew who did, such as a partner, relative or friend.

Findings from the survey revealed that a significantly higher number of participants 55.8% (92/165) felt that a price increase would not change levels of consumption ($t(164) = 40.161$, $p < .000$), however this was significantly correlated with age, with younger participants reporting that increased price would change consumption, and older participants reporting that it would not ($r(166) = .167$, $p = .032$) (Figure 4). Out of the respondents who felt a price increase would change consumption, 18.5% (31/67) felt that people would drink less; 10.7% (18/67) felt that people would buy something else, and 10.1% (17/67) thought that people would buy them elsewhere.

Survey respondents were also asked whether they felt that a price increase would have a positive impact; 49.4% (79/160) felt that it would and 50.6% (81/160) felt that it would not (eight people did not complete this question). Those who felt it would have a positive impact felt that it would improve health (32/75, 42.7%), reduce obesity (23/75, 30.7%), or reduce consumption (18/75, 24%). Only seven people provided a response about why they felt a price increase would have a negative impact, 3% (5/7) felt it would impact on industry.

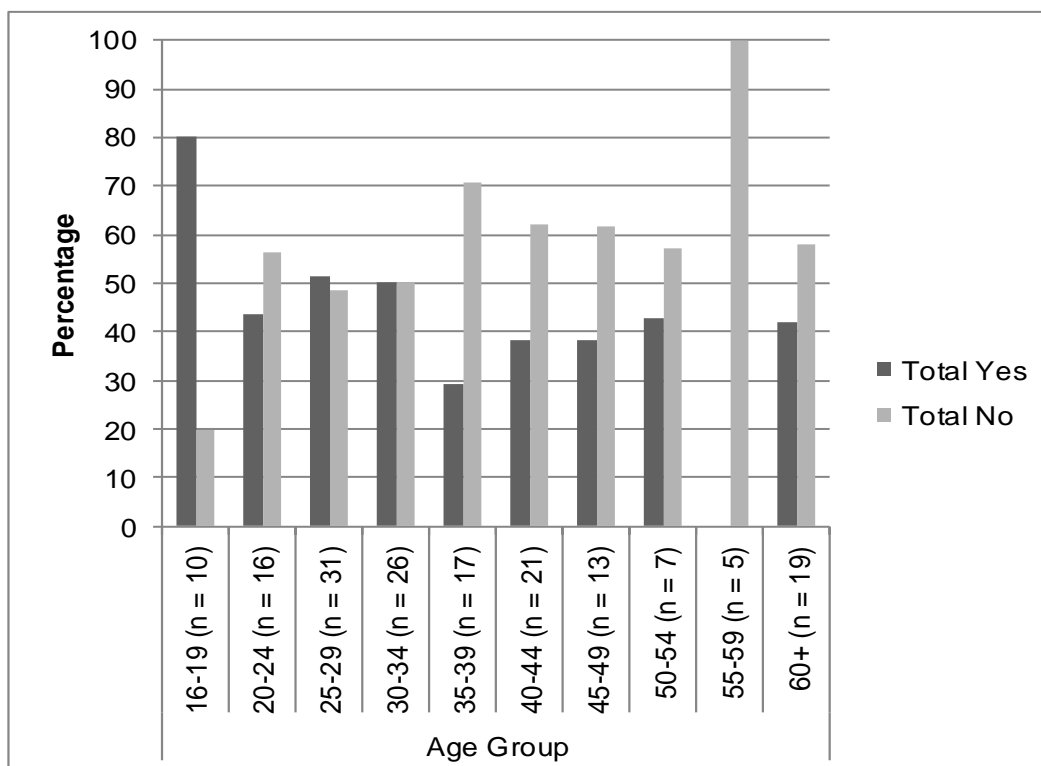


Figure 4 View of whether a price increase would change consumption, by age

Many of the interview participants tended to feel that an increase in price would not decrease consumption, with themes relating to budget and inconsistencies in price being identified as key factors affecting behaviour.

I: Even though you might not drink it yourself, think about your friend, would this stop them?

P: No, not at all. It's such a small increase in price, what difference would 20p, what 23p make? None, if people want to buy it then they still will do.

I: Why do you think that?

P: Cos people don't look at the price, I know when I get a drink, I know what its roughly going to cost, and its different in different shops, so I just think that if it's a habit, if people want the drink, they wouldn't be bothered by this. (Mother of two young girls aged 8 and 4 years, H).

Not at all, not at all [it won't make a difference] because what they'll do, you've got the likes of McDonalds, Burger King, KFC, they'll put a couple of pence on their burger and keep the price of the Coca-Cola the same, you've also got your value drinks of Coke which won't make a hint of a difference because it's cheap pop. (Adult male, LWMS attendee, BI).

I don't know to be honest, I've got a few friends of mine, they go purposely to certain stores because it's on offer, they go down the 99p Store cos they know they can get four bottles of Pepsi so they stock up. (Adult female, BI).

B2: It would like try and persuade you not to drink it...

B3: Some people like to buy them and would buy them if they are more expensive

G1: It may be too expensive...

Do you think your friends may still buy them if they went up by 20p?

B2: Yeah. (Mixed focus group, aged 7-10, H).

I don't think it would make a difference...not for an increase of that small an amount...I don't think from a young person's perspective 18p would make a difference. If it was something like a pound, with the small amount of pocket money they have they may think twice. (Home Manager for Looked After Children, B).

B5: I don't think such a small increase would affect it...

G3: I think if it was a large increase it would.

G4: Yeah unless it went up from a pound to two pound

B3: Yeah you wouldn't bother then. (Mixed adolescent/young person's focus group, B).

I don't actually think that small increase would actually get them to stop...the community I work in; I think they would just continue...I think it needs to be higher. (Community Health Improvement Worker).

I don't know if it would affect people, it's changing people's habits isn't it, if it's what you're used to, if it is what you're used to drinking and that's what you do, you do. (Adult female, BI).

I think it'll be a big exercise that won't make a bit of a difference really. It'll cost the taxpayer to enforce it more than it will the people to change, there are different ways of changing people, I think as a nation we need to look at our local Clinical Commissioning Groups and our GPs and Practices and looking at ways

of getting people the right nutrition really, and changing the ways they also go about it. (Adult male, LWMS attendee, B1).

I'd still buy it if I wanted it. (Parent, parent focus group, C).

B1: Nope

B3: If people want it they'll drink it anyway

B2: That wouldn't make like a huge difference (Mixed focus group, aged 16-17 Kb).

I don't think it will make a difference because there will always be offers on (Parent, parent focus group, C).

My mam...we'd still carry on getting it if it went up. (Girl, girls focus group, aged 7-11, C1).

P1: I'd still have to buy them...I'd have to 'cos that's all he drinks.

P3: I don't think a tax increase would make a difference to a lot of people, because if they like it they'd buy it

P4: Water is cheaper, and if they're [families] not drinking it now then they aren't going to. (Family focus group, C2).

G3: It's not gonna make a difference, it's not gonna make as much of a difference as like putting £2 on top of it....it's quite a small increase. (Mixed focus group, aged 16-17 Ka).

B1: Nah....Because it doesn't really matter on the price, some people just go in there and buy them

I: So they'd drink it anyway?

B1: Yeah and then go back and have some more. (Mixed focus group, aged 6-10, B)

Do you think that increase would affect how often people buy it?

P2: No

P4: No

P9: No. (Parent and carer focus group, H).

I don't think it would make a difference to him at all. I mean I think the main reason I don't think it will make a difference is because there is always deals on in shops. You go into the Co-op and you get a meal deal for a couple of quid. So your bottle of Coke might be £1.15 but you get your butty your packet of crisps and your bottle of Coke for three quid. So you split it down and you think; I'm going to get the drink included with it anyway. So you get the bottle of Coke because it would have been more expensive. And then you go into Asda and you have your three for the price of two, or potentially what would then happen if you were a family on a budget and if you regularly bought cans of coca cola, you'd just go for the shop's brand and shift down a level in order to still be able to afford it. Right the way down to your value coca cola, which is probably going to cost about 15p instead of 30p. I don't think price increase is the way to do it. (Non-SSB drinker, parent of a 9 month old, H)

Well, it won't work, the price of everything always increases anyway, so people wouldn't be surprised if the price of sugary drinks increased gradually. (Mother of two young girls aged 8 and 4 years, H).

I don't think your target market of obese people and the people that it's meant to help, with that lifestyle change, would be that motivated. Because if you are really that motivated you wouldn't be on that many bottles of fizzy drinks a day, and I think once you are in that trap, it's then going to be hard to get out of it because your body is relying on those empty calories and then if you cut them out, you kind of feel like you need a bottle of coke. (Non-SSB drinker, parent of a 9 month old, H).

Do you think if SSBs were increased in price by 20%, around 20p, people would buy them less?

I think so yeah, I mean I'm in quite a fragmented family, he lives with me four days and his Dad three days...something as simple as 20p, when you add it all together, it all adds up doesn't it? (Parent, family focus group, C).

Budget

Some participants described how people with money to spend would still buy SSBs, regardless of the price, but described how this might impact on people who have less money to spend. Very few people felt a price increase would affect their behaviour.

I mean, maybe families on a budget might re-think, so like if they have a set amount each week for their weekly shopping then maybe, but probably not. (Mother of two young girls aged 8 and 4 years, H).

The people that are really really watching the pennies...then it may make them think twice (Community Health Improvement Worker).

Do you think that increasing the price of Coca-Cola would stop people buying it?
B2: Not exactly because some people like have £5 pocket money and you can still buy two or three...but if it goes down in price people will start buying more and more. (Male aged 8, mixed focus group, H).

G1: I suppose if you've got no money, and it's cheaper

B1: Yeah if you're skint you might do. (Mixed focus group, aged 16-17 Kb).

B3: It all depends on the situation doesn't it, I mean, if they've got money to spend and they don't like the other brand then they'll get the other one, either they just prefer the other one, or it's cheaper for them, it all depends. (Mixed focus group, aged 16-17 Kb).

I: If the price went up by 20p, would you still buy them?

G2: Depends on how much pocket money you get. (Girl, girls focus group, aged 7 – 11, C).

I: Do you think people would buy less drinks if the price was increased or do you think they would buy the same? That they would just not be bothered about it?

G3: Buy less

I: You think they would buy less? Why?

G3: cos it would cost them more money. (Mixed focus group, 6-10 yrs old, B).

I think if cost was an issue, then people would [reduce consumption], so people from lower incomes that have got budgets to manage. (Non-SSB drinker, parent of a 9 month old, H).

I think, it depends on your income really. I think if you have got the disposable income where you can afford to pay a corner shop price for a bottle of Coke, you

are going to buy a bottle of coke. But if you are a family of...five and you are struggling with your budget, then you might down shift to a different brand. (Non-SSB drinker, parent of a 9 month old, H).

It depends what the tax is for, prices increase anyway so people are used to things becoming more expensive, and just adapting. (Mother of two young girls aged 8 and 4 years, H).

M2: I don't think it would have an impact, I think people would still drink them

M4: They'd find a way, unless they really couldn't afford it

M2: It's like what they did with smoking and people still smoking. (Young mothers focus group, M).

Inconsistencies in price

A number of participants described the inconsistencies in the current pricing of SSBs, and explained that the prices could differ depending upon which shop they were sold in. Some participants provided examples of where they had paid a relatively large sum of money for a small bottle of sugary drinks.

G1: I think you find from place to place where you go, they vary in price anyway, in one place you go and it could be £1.50, another place you go and it could be 80p

G4: Or you go to London and they're about £10. (Mixed focus group, aged 16-17 Kb).

P2: I don't think people would notice [if a tax was introduced] because the prices vary from shop to shop anyway

P5: Well you can go to the bottom shop and get two bottles for a pound, and another shop it's £1.80 for one. (Parent focus group, C).

I: What about if you had to pay £2 for a little bottle of Coke, would you still pay it?

G2: It depends how much money I had on me, I'd just buy whatever money I had

G3: If you had only so much money for lunch then you'd probably reconsider because you wouldn't be able to buy anything else would ya

I: So would you then buy water instead?

G3: Whatever's cheaper

I: What's the most you would pay for, like a bottle of Coke?

G1: £2.70 I've paid for a bottle of Coke

I: You paid £2.70 for a bottle of Coke?

G2: A little one?

G3: Like a 500ml bottle?

B1: I've paid four quid, in London. (Mixed focus group, aged 16-17 Ka)

B3: 59p is a can of Coke in that shop. (Mixed focus group, aged 8-10, H).

He [husband] would buy it at full price as well. If we stop off at a shop and I say do you want a drink, he'll say yeah I'll have a bottle of coke, and he'll pay the full price for it. He has probably paid up to £2 at certain events, he will always but it at the full price as well. His drink of preference will always be a can of Coke. (Non-SSB drinker, parent of a 9 month old, H).

You've also your Pound Shops and your Pound Land where everything's cheaper, if you go in Pound Land now, or B&Ms, or Home Bargains, and you can

buy 8 bottles of small Pepsi for £1 so they're still gonna stock it, putting a tax on it is only gonna send them somewhere else. (Adult male, LWMS attendee, B1).

Substitution effects

The insight explored whether people felt that they would change the SSBs that they would usually consume, either by buying a cheaper version such as an own brand, or swapping to a diet version. The insight also explored whether people would buy in bulk.

Bulk buying

Participants were asked whether they felt that people would bulk buy SSBs, if it worked out cheaper. Some older people felt that younger people only tended to buy one small drink of SSB, such as a 500ml bottle or a can, and so would not be interested in bulk buying as it would be impractical.

P: I think they are going to go and buy in bulk, and go to more places like Costco. They're going to be like 'oh such and such has got an offer on Coke', and they will go to Morrisons or Tescos, where they wouldn't normally go, to get what is on offer. Because there is always those supermarket offers.

I: So do you think people would target those bulk deals?

P: Yeah I do. I think they would actively hunt them out. And once you have got them in, you know, and they are a bit more free and easy, you are not going to ration them as much anymore. So I don't think it would make a difference. (Non-SSB drinker, parent of a 9 month old, H)

I think people may [bulk buy] within family homes, would purchase that, but our young people wouldn't have that sort of money to be spending on them... (Home Manager for Looked After Children, B).

I: Do you think people would bulk buy?

B2: It is cheaper though innit

G3: If you buy in bulk?

B2: Yeah

G4: Yeah definitely. (Mixed focus group, aged 16-17 Kb).

G5: I think in some places they are like £1.20, £1.70 anyway, so then...if it was more expensive; I'd hunt out the cheaper shops

G1: If that was to go up, I'd probably go for a different style of fizzy drink that was cheaper. (Mixed adolescent/young adult focus group, B).

P2: If it's expensive in supermarkets, they'd just go to a cheaper place like B&M...

P5: And then you would drink more and then have to buy more...

P3: you see it in Asda and Tescos a lot of the packs. (Parent and carer focus group, H).

P3: If it went up, you would just get it when it's on offer, wouldn't you. (Parent, family focus group, C2).

G4: [The local wine shop] always have deals on like Pepsi and Coke; really cheap deals. Like two pound for two 2 litre bottles. (Girl, girls focus group, aged 7-11, C).

I: Do you think that if it was cheaper per bottle to buy that big pack, do you think people would just do that instead?

B1: Erm, no

I: No?

B1: Because it'd be much harder to carry. (Mixed focus group, aged 6-10, B).

P: My Dad is a truck driver and he drinks loads of Coke, he gets it from Macro as it's cheaper. I mean he drinks like over 2 litres every day, and he gets them from Macro cos he knows it so much cheaper from there than anywhere else. He definitely bulk buys already! (Mother of two young girls aged 8 and 4 years, H).

G4: It depends on age though, cos we're not gonna spend £2 on 3 litres to walk around the streets and drink, we just want a can of coke, so for this age group I don't think we'd consider just, would ya?

B2: No

GL: Is it more than your parents would?

G4: It's more convenient yeah I'd say. I find that if I do that I'd probably use more

G3: That's a good point actually cos when you've got it there you're like, I just take it, I buy it for the week and its gone after 3 days, I've gotta go and buy it again, even though I've bought enough to last the week

G4: Yeah it's true.

G3: If there's a special on in Morrisons I think Dad'd nip down but I don't think we would, I'd go the shop and just buy a £1.20 bottle! (Mixed focus group, aged 16-17 Kb).

Switching brand or type

Participants were asked whether they thought that people would switch to drinking non-SSBs, such as diet drinks, or an own brand if the price of these were cheaper than the SSBs. Participants provided their general opinions of how people might switch elsewhere if they thought it was cheaper, but that for others it would not make a difference.

I: Do you think people might switch to diet drinks instead?

P: No, for the same reason. If people don't drink it already then they won't switch now. (Mother of two young girls aged 8 and 4 years, H).

People are used to it; it's a habit, they won't switch...with me, there is a coke in my fridge waiting for me at home. I think a lot of people buy out of habit, go in the supermarket and pick up the same thing every week (Parent, family focus group, C).

I: Do you think people may switch to diet if these were cheaper?

P10: I won't drink diet, end of. I don't like the taste of it, and my kids wouldn't touch it...and we're not going to change that just because someone has put a price increase on it.

P2: You're either Coke or you're Pepsi or you are diet.

P3: You have your favourite don't you

P10: Now, normal Coke is more expensive than the Asdas own, but people still buy it, and it makes no difference, does it? (Parent and carer focus group, H).

G6: Even if they go up in the shops you've got places like Home and Bargain and B&M; I mean I can get a 250ml bottle for 20p

I: Would you change to an own brand SSB if it were much cheaper?

G2: I would if it were Orangina or Fanta, for Coke I wouldn't, I don't like rola cola! (Mixed adolescent/young adult focus group, B).

I: Would you switch to a cheaper brand?

P2: Myself, personally, I wouldn't

P3: Yeah they taste funny. (Parent focus group, C).

I: Would people change from a brand to non-brand?

B2: Yeah, rola cola and that

B3: Yeah, like I buy the fake Red Bull

G1: Yeah the stimulant drinks

B2: It's just all the same thing innit. (Mixed focus group, 16-17 yrs, Kb).

G2: If it went up you would probably choose another energy drink that was cheaper. (Female, girls focus group, aged 7-11, C).

G3: People would just end up going to Home and Bargains (female, aged 16-17 Ka)

G1: Whenever the prices go up they just leave it and find something similar to that. (Female, aged 10, B).

If I couldn't buy an energy drink; I'd still probably go for something with sugar in it, I'm just a sugar junkie I'd go for anything. (Female, aged 23, mixed adolescent/young adult focus group, B).

I: Does anyone else think then that might happen, people might just buy cheaper drinks instead?

B2: Yeah cos you can buy like 35p energy drinks instead of that. (Mixed focus group, aged 6-10, B).

P: No, it won't make any difference really, it won't change what they drink, they might just buy it cheaper somewhere else rather than change their behaviour (Mother of two young girls aged 8 and 4 years, H).

I: Do you think that people may buy own brand SSBs instead if these were much cheaper?

P2: No because Coca-Cola is nicer, much nicer isn't it. (Parent, family focus group, C2).

P: I think a price increase wouldn't affect how much people drink too much, they might cut down a bit or change where they buy it, but it might make them think about it more. (Mother of two young girls aged 8 and 4 years, H).

So basically, you are sticking prices up, you are going to penalise a small group of people who are going to shift to a cheaper brand. (Non-SSB drinker, parent of a 9 month old, H)

P10: If you inflate the cost of sugary drinks in a bar; the beer is just going to be even more attractive

P11: Or have the alcohol without the soft drink in it. You're encouraging people to have shots

P7: Alco-pops as well, all the alco-pops would go through the roof. (Parent and carer focus group, H).

I: Do you think people will switch to an own brand alternative?

P: Yes, and you've also got your meal deals like Subway, McDonalds, Burger King, your local Spars and shops like that, who will put an increase on the other products to try and keep the cost of the fizzy drinks the same, so they'll offset it against something. (Adult male, LWMS attendee, Bl).

Taste

A number of participants felt that people would not switch to a diet brand or a cheaper alternative because they would not like the taste.

I think if we pull up outside a shop and my husband said grab me a bottle of Coke and I came back with the shop's own brand he would send me back in! So for myself, I'd pull a bottle of water off the shelf, and it wouldn't matter what water it was, whether it was an Evian, or shop's own...if I came out with a bottle of smart brand cola or Tesco's own, he would look at me and say 'urgh what's this, it's horrible, it's not the same!' and he would send me back in for another one. (Non-SSB drinker, parent of a 9 month old, H).

G3: Sometimes they don't always taste the same (FG, mixed, aged 16-17 Kb)

B2: They'd still drink the same

B3: The same

I: Why?

G2: Cos they taste different as well I think

G3: Yeah. (Mixed focus group, aged 16-17 Ka).

No, people wouldn't substitute for a cheaper brand, they wouldn't like the taste, they know the brand. Unless they really couldn't afford it but even then they might not change. (Young mother, M2).

My friend say you can tell the difference in taste, once you've had one you know what it tastes like, you can't change, you know. (Adult female, B1).

I think people with a Coke habit (laughs), that sounds awful, people with a Coca-Cola habit, like my husband, would pooh-pooh the diet, and he would whinge about it. I'd be sat there like it's 30p cheaper and he would say he didn't care. (Non-SSB drinker, parent of a 9 month old, H).

I: What if the price of non-sugary drinks were cheaper? Would people switch?

B1: Depends, some people might not like them, I think I like both. (Mixed focus group, aged 16-17 Kb).

Image

A number of participants, mainly females, described how they felt that some people would not switch to an own brand because of the impact it may have on their image.

I: Would they buy a cheaper alternative?

G3: No

B1: No

I: Why

G3: Cos they're too materialistic. (Mixed focus group, aged 16-17 Ka).

No, it's Coca-Cola, people will still drink it for the name, the novelty. (Adult male, LWMS attendee, B1).

I: Do you think they would buy a cheaper version?

P: No, they [young people] would go for the real McCoy; I think a lot of it is status, and the name...they wouldn't want to be drinking the rola cola, part of it is the stigma from their friends. They would go for the named brand...I don't think they would buy the cheaper brand. (Home Manager for Looked After Children, B).

I: Do you think people would just buy a supermarket own brand instead? Like Asda's own brand of coke?

P: No, cos it's about the brand. People wouldn't want to walk around carrying an Asda own brand drink, they would buy Coca-Cola, it's about their image. They'd pay extra, I mean they already do. If they don't already buy the own brand stuff they won't switch now. (Mother of two young girls aged 8 and 4 years, H).

I think as well it's the marketing; if you've got a can of Lidl Coca cola versus a brand, most people would choose the brand because it's more in. (Parent, family focus group, C).

I would say from my experience that it seems to be the brand that attracts young people; and the design, especially drinks like Monster with the trendy t-shirts...and if other people say 'I have the cheap version' they sort of skit that a little bit... (Community Health Improvement Worker, D).

P4: It's branding isn't it; people just go for the branding straight away. (Parent and carer focus group, H).

Health

When asked to think about whether people may switch to a diet or cheaper option, some participants discussed how they felt that these may not necessarily be a healthier option. Some participants described artificial sweeteners and some felt that cheaper options had more sugar in than the branded options. Many participants expressed how they believed artificially sweetened beverages were detrimental to health; however participants could not explain exactly how and why these artificial beverages were detrimental. Some participants felt that full sugar drinks were not as bad for health as artificially sweetened drinks.

I know a lot of people who are trying to reduce things but they're reducing with diet free and sugar free but instead of sugar they put Aspartame in it which is another different story. (Adult male, LWMS attendee, BI).

G4: Isn't though like Diet Coke and that though a lot worse than full fat?

B3: I reckon the diet, like the Diet Coke and that, usually tastes more sweet than, it's like artificial. (Mixed focus group, aged 16-17 Kb).

G2: Don't them diet ones have something weird in them, like Aspartame? My mum always goes on about it so she says not to drink it

G3: So just because something's not got sugar in it, it could have a sugar substitute in it, which is worse

G1: What's an Aspartame?

G2: I don't know, it's just something that replaces sugar that's like bad for ya. (Mixed focus group, aged 16-17 Ka).

P7: if you start taxing one over the other then you're indicating that that bottle [artificially sweetened] is better health-wise than the full sugar; when actually, it's not

P3: Yeah it's not...

P5: It's actually worse...

P7: And if kids start drinking that stuff; if they are under the age of seven they can't deal with that stuff properly!

P9: It's horrible, nasty stuff...

P4: If I was going to a slimming club, and they actually say 'look this one's better for you, it's even cheaper' well actually in reality it's just selling you a myth because it's not better for you... (Parent and carer focus group, H).

G3: *Don't the cheaper ones have more sugar in anyway? So say if we did go to get the cheaper ones instead, they'd have more sugar?*

G2: *Yeah they'd have worse quality as well*

G1: *Like an Asda's own brand*

G3: *Yeah cos don't they just fill it with sugar (Mixed focus group, aged 16-17 Ka)*

B2: *But the Coke Zero's like...erm near enough the same as Coca-Cola cos even though it's got the sugar taken out of it; there's still acids in it... (Mixed focus group, aged 7-10, H).*

G5: *If this is about health, then the diet one has actually got more chemicals in than the others!*

G9: *It's that uncertainty over is it actually healthier to have a diet drink... (Mixed adolescent/young adult focus group, B).*

P4: *I only buy diet; but people say you shouldn't give sweeteners to kids...and people say it's cancerous. (Parent, family focus group, C2).*

P10: *I think you have also got to look at why you are having a sugary drink instead of something else; so if you're having a sugary drink in a bar instead of a pint, the sugary drink isn't that bad compared to the pint. (Parent and care focus group, H).*

Some survey participants also described how they felt that sugar-free alternatives were not necessarily any better than SSBs:

Diet drinks full of chemicals, families are addicted to these drinks, need to stop using e-additives and encourage parents to give water to their babies and children

Diet drinks I avoid at all costs, the additives are bad

Sweeteners such as Aspartame are just as damaging for health, prefer SSBs to these, sweeteners worse

Caution needed around additives in diet [drinks] and the impact of artificial sugar on children

3.4 Acceptability

A total of 51.9% (84/162) of the survey participants felt that a twenty per cent price increase would be acceptable, with 48.1% (78/162) stating that it was not (six respondents did not provide a response to this question). Of those who felt that it was not acceptable, ten people suggested that a lower increase would be more acceptable, with suggestions of five and ten per cent. Nine people stated that only a zero per cent increase would be acceptable. Five respondents described how they felt that better education and increased awareness should be done instead of a price increase; two people felt it would be another way for the government to raise money, and one person said that the industry should make more drinks with no added sugar.

Survey comments from people who felt that a price increase would be acceptable included:

Anything that would deter good, not for government use, gov could ensure lower calorific content

I wouldn't buy it if the price went up

Survey participants who felt that a price increase would not be acceptable provided reasons and alternative ideas:

Age restrictions on energy drinks

I am Asian, we don't drink alcohol, always have a SSB at a social event. Unfairly penalising Asian community

How dare they, there are people who are thin and drink and are fine

It is not fair, I do not smoke or drink but I like sweet drinks as a treat

Not fair/just to society. How dare they contemplate choosing for us!

Price increases in other products like tobacco, but it doesn't make a difference

Interview participants were asked whether they felt that a twenty per cent increase in the price of SSBs would impact consumption, and the majority felt that people might not notice a difference anyway, due to existing inconsistencies in price. Many of the participants felt that a large increase in price would be unacceptable, with one highlighting that the tax would be aimed at those people who cannot afford to spend additional money.

It might not be so acceptable if there was a sudden increase in these drinks and it was enforced. (Mother of two young girls aged 8 and 4 years, H).

I think it [20%] is acceptable, but I am not sure what the impact would be. (Care Home Manager Looked After Children, B).

I think it [20%] is acceptable. (Community Health Improvement Worker).

G1: I don't really have an opinion. I don't think we'd really notice, if it wasn't ridiculous like amounts of money

G2: There's different prices for it everywhere anyway

I: So you wouldn't be too bothered if the price went up?

G1: As long as it wasn't too much. (Mixed focus group, aged 16-17 Ka).

I think it's totally wrong, it's the wrong path to go, it's just an easy route out. Okay, everyone's consuming too much, the dental bills gone up, the obesity bills gone up, let's tackle it by putting a tax on Coke, let's not look at the real problem, let's not just go into the communities and ask the people, let's do it from Westminster. There's not enough put into projects into local communities to understand how much people are consuming, what people are consuming, what their diet is like. (Adult male, LWMS attendee, Bl).

B1: They'll charge more in certain areas though, like if it's the capital then they'll charge more there than they will in Liverpool. (Mixed focus group, aged 16-17 Ka).

Yeah I think it's perfectly acceptable, I think it will work for a small minority of people, I don't think it will cure the problem. (Non-SSB drinker, parent of a 9 month old, H).

When I think about putting a tax on sugary drinks you kind of associate sugary drinks more with young people than with older people don't ya, it seems like a

tax that's aimed at younger people or families and stuff like that, rather than not, the people who are actually earning the money. (Adult, male, Ka).

B3: I think it's something that they should do...because it will help people's health. (Male aged 8, mixed focus group, H).

G1: Yeah I think it's good because it might stop people from getting diabetes or something. (Girls focus group, aged 7-11, C).

P10: I don't think it's fair putting a tax on it, I think it's just another excuse to put a tax on something, and I don't think it's going to make any difference, and I think they know it's not going to make any difference, it's just going to be another tax stuck on our food and stuff just so they can make more money. (Parent and carer focus group, H).

I don't think it's fair...I think it's just going to get more people into debt as they'll still buy it in their shopping. (Parent, family focus group, C2).

I don't know, I think it is because it might help some people to actually think about it really, if I've heard it on the news that the government are trying to do something, in a way then it would make me sit up and think right well, if they're going this far then I need to do something. (Adult female, BI).

Diet goes alongside drinking Coke, if you change people's diet and educate them on things they'll change, people'll change. They want to change, just some people have no options. (Adult male, LWMS attendee, BI).

Use of monies raised

A large number of survey participants (134/164, 79.8%) felt that a price increase would be more acceptable if the monies raised were used for health purposes. During the interviews, participants were asked their thoughts about the purpose of the monies raised via a tax on SSBs. Some participants felt that the money should be used on educating people about healthy eating, whilst others felt they could not be certain about how the money would be used. One group of adolescents described how people may be inclined to purchase more SSBs if they knew that the money was going towards a good cause.

I: So if the money generated from a SSB tax were used solely for health purposes, how would this affect your opinion? Would it be more acceptable?

P: Yeah, but I don't trust the Government, I don't think they would do that. They are a bunch of lying...people...I think it would help to be used to educate people more, but...I think they would have to make some compelling arguments as to how they were going to make an impact with that money, in order to make it palatable. It would be better to go towards helping rather than straight in the government's pocket. (Non-SSB drinker, parent of a 9 month old, H)

The money should be spent on more sports facilities, round here there's nothing for the kids, my boy plays football and there's nowhere. If the money was spent on sports equipment or something then that might help people. (Adult female, BI)

If they were going to do it, they should put it in worthwhile projects in the community, cos that's where it starts from is in the community, it doesn't start in Westminster, it starts in the community. (Adult male, LWMS attendee, BI).

B3: I think they're doing it [considering a tax] because they are running low on money or something... (Male, aged 8, mixed focus group H).

I: What do you think a tax on sugary drinks should be spent on, do you have any thoughts? Any ideas?

P: Yeah the money should be spent on educating young people and poorer families about healthy eating. I think more should be done in schools about this, people need more education about shopping and cooking, how to do this healthily and if they're on a budget. So I think that's where the money should be spent. (Mother of two young girls aged 8 and 4 years, H).

I: If there was a price increase but the money went towards something positive like health research, do you think it would make it more acceptable?

All: Agree

I: Do you think that people should be made aware of that?

All: Yeah

G3: Yeah, people would buy it more

G2: Cos it's for a good cause. (Mixed focus group, aged 16-17 Ka).

Education. I think you have got to start with the grassroots, you have got to start when people have babies, you've got to start in areas where you know a lot of people purchase these things. You've also got to improve legislation around the advertising in the supermarkets. And you've got to make sure that Tescos, Asdas, don't have two for one offers and things like that. (Non-SSB drinker, parent of a 9 mth old, H).

[If money generated is used for health] is the intention not to reduce it...if you were putting the prices up so not as many people buy, but then would you be advertising it because you wanted them to buy it? It's a bit catch 22... (Care Home Manager for Looked After Children).

G5: It could be used for health, or like maybe donated to charity to help people get food and drink...like we could stop drinking them so much and they could have something good to eat

G3: They should give it to other countries with no NHS

G2: Or Africa, that's got no clean water. (Girls focus group, aged 7-11, C).

Isn't that going against it all? Because if they are going to put that 20% towards health, if that was me I would think, oh well I'll buy that because it's going towards health. It's going to make me want to buy it because it's going to a good cause. (Parent, C).

Participants also spontaneously raised the proposal of subsidies to help people make healthier choices, and suggested that healthier items should be made cheaper for people with a limited budget.

If the price of sugary drinks goes up then the price of health items should be made cheaper. (Young mother, M1).

What do you think the money should be spent on?

B3: On fruit

B2: Water, milk and juice, like more healthier drinks.

G1: You should make the bad stuff dearer and the good stuff cheaper. (Mixed focus group, aged 8-10, H).

P10: If it's about making people choose one over another...does it not make more sense to subsidise water or sparkling water? (Parent and carer focus group, H).

P5: Lower the cost of fruit and veg, because some people are on a budget...so the price of fruit and vegetables should be lowered
P2: Yeah because it is cheaper [SSBs] than buying fresh juice, so people buy it.
P5: Yeah like you can buy a sugary drink for a pound but a punnet of cherries is three pound, things like that really. (Parent focus group, C1).

3.5 Education and Awareness

In addition to a number of interview participants suggesting that monies raised should be spent on education, many proposed that there was a lack of awareness of the health impacts of SSBs. Both parents and health and social workers indicated that children and adolescents need to be educated about SSBs and their health implications. This view appeared to be supported from data elicited from children and adolescents that indicated a lack of awareness of the sugar contents of some drinks and other health impacts of consuming SSBs (aside from dental caries).

This issue was also raised by a care home manager and a health improvement worker, who described how they felt children and adolescents are unaware of the contents of SSBs that include sugar and additives. Both spoke of how they were trying to educate young people so that they were more aware of the health impacts of SSBs.

...we've got a duty to make sure we are educating them...because they don't necessarily know what is in them and the difference between one energy drink and the next. (Home Manager for Looked After Children, B).

Its education, your dental problems, weight, obesity, diabetes, it's just a long long line of health issues... If they knew more about what drinks do. (Adult male, LWMS attendee, B).

You often find...that people with lower incomes...may not be as informed about health implications so they may be more inclined to buy SSBs... (Home Manager for Looked After Children, B).

I put out 12 teaspoons of sugar for some SSBs; and when they [young people] see it themselves; visually, it has a strong impact. (Community Health Improvement Worker).

P2: I think if people showed the amount of sugar in them...where somebody can actually see it

P3: And possibly like they do on the cigarette packets...like on the front of the drinks they should show how many cubes of sugar is actually in them...I think that would be more of a deterrent to people...figures and numbers people don't understand. (Parent focus group, C).

I'd say the families don't have that awareness as well...we do the same display with sugar for families and adults and they are just as horrified as the young people...I think it is a general lack of awareness of what people are eating and drinking. (Community Health Improvement Worker).

There's a big difference between the level of education and knowledge...for example if I work in a lower set in secondary school they seem to be having a lot more of poor quality food and drink, if you work in a higher academic set, they tend to come from families who have a higher level of education, and a lot of them will drink water and they understand the health implications of SSBs...I think there is a need for more workers on the ground in deprived areas raising awareness. (Community Health Improvement Worker).

A lot of them don't understand that sugary drinks equals calories which equals weight gain...they don't understand the basics of nutrition. (Community Health Improvement Worker).

People just don't know how many calories are in these drinks, they're in denial. (Young mother, M2).

P5: I don't think you know how much sugar is in them

P10: They should advertise more how much sugar is in them. (Parent and carer focus group, H).

Because you try and do your best as a parent, wherever you start out, and sometimes it's just through lack of education. And if somebody hasn't got the fact on it or doesn't think, like was brought up like I was in the 80's being shovelled full of sugary drinks. You know, it's hard for them to break those habits. Obesity is about education, it's not about making things unobtainable because that just makes people want them more... (Non-SSB drinker, parent of a 9 month old, H).

I think it's more about education...educating people as to what is in energy drinks, what are the effects on your health...to educate people to be more healthy. I don't think just putting the price up in isolation would make any impact because you are not putting people with the knowledge to make an informed choice. (Home Manager for Looked After Children).

It [money generated] should be used to educate people within schools...your target audience is within the education system. (Home Manager for Looked After Children).

B2: It should be about giving people information in order to make an informed decision

G9: I think as well making it easier for people to make the healthier choice, because sometimes packaging can be misleading and you think you are making the healthier choice, but you are not. (Mixed adolescent/young adult focus group, B).

P4: I think they should be concentrating on public awareness and education instead. (Parent, family focus group, C2).

I was talking to a young lad the other day and he got off his bike and grabbed a cheap energy drink from his local off-licence and he started gulping it down, and he said I feel better after that and I said do you really feel better? So I had a conversation with him...I told him the facts and figure. I said if you got off your bike and put half a litre of water in your body you'd of felt ten times better than that, I said it last longer than that. And seriously no joke the next day he turned up with a bottle of water. Just from having a conversation with him. They don't know is the fact, they don't know anything, they don't know any better. (Adult male, facilitator of nutrition session, B1).

Survey participants also noted how they felt as though education and awareness raising was important:

Children and impact of shift in culture: packed lunches, image, brand and social impact

It's about education

Need more awareness, especially with children

Need more education for children so they can be healthy and take care of their teeth

Needs to be more awareness with young families

Advertising

A small number of participants raised the issue of advertising, and felt it was inappropriate for children, and could make it difficult for parents to say no to children wanting SSBs.

You need to stop the soft drink companies advertising the way they do and stop making them so appealing, because you know, you can put the price on what you want, but because the advertising is so strong for soft drinks, and it is so in your face constantly. Coca-Cola you can't get away from, your Fanta's, your oasis, your Fruit Shoots, you name it, you cannot get away from the advertising. Any kids channel has got it on. If you stick the price up, it just makes it more difficult for the parents to say no to their children; you need to stop making it so appealing. And if you ask my opinion you need to ban them from making them full stop. I'd ban it to be sold to anyone under eighteen personally. Coca-Cola say they don't advertise to under 7's but who is that Coca-Cola Santa advert aimed at? Every single kid under seven believes in Santa. And that's aimed specifically at children! (Non-SSB drinker, parent of a 9 month old, H).

I think it's about who the advertising is aimed at; looking at who they are advertising to... people within schools; they are the ones at the minute that it seems to be aimed at. (Home Manager for Looked After Children).

I think advertising...the secondary school that I have been in is a sports college, so a lot of them are very sporty...and they actually believe, like the recent advert that it makes you run faster if you have Lucozade as opposed to water...it's false marketing...they [young people] are taken in I think by this false marketing. (Community Health Improvement Worker).

P9: I know Coca-Cola say they don't advertise to children; but why put a name on a bottle?

P2: It's on the telly, it's encouraging them.

P4: Plus...if they put some indicator of the sugar on every bottle...like you have you green amber and red for food?

P9: But if instead of taxing them; you restricted where you could buy them from, and the hours that you can buy them...then that's more of a fair system. (Parent and carer focus group, H).

Survey participants also felt that advertising was an issue to be addressed:

Companies should take more responsibility in reducing obesity epidemic, advertising of these drinks is very misleading

Maybe cut advertising, it should be about choice

3.6 Development of theory

The findings from the insight work were integrated into an explanatory model to understand the key factors associated with SSB consumption, and the issues related to how and why a tax may impact on behaviour change (figure 5). This model is explained further below.

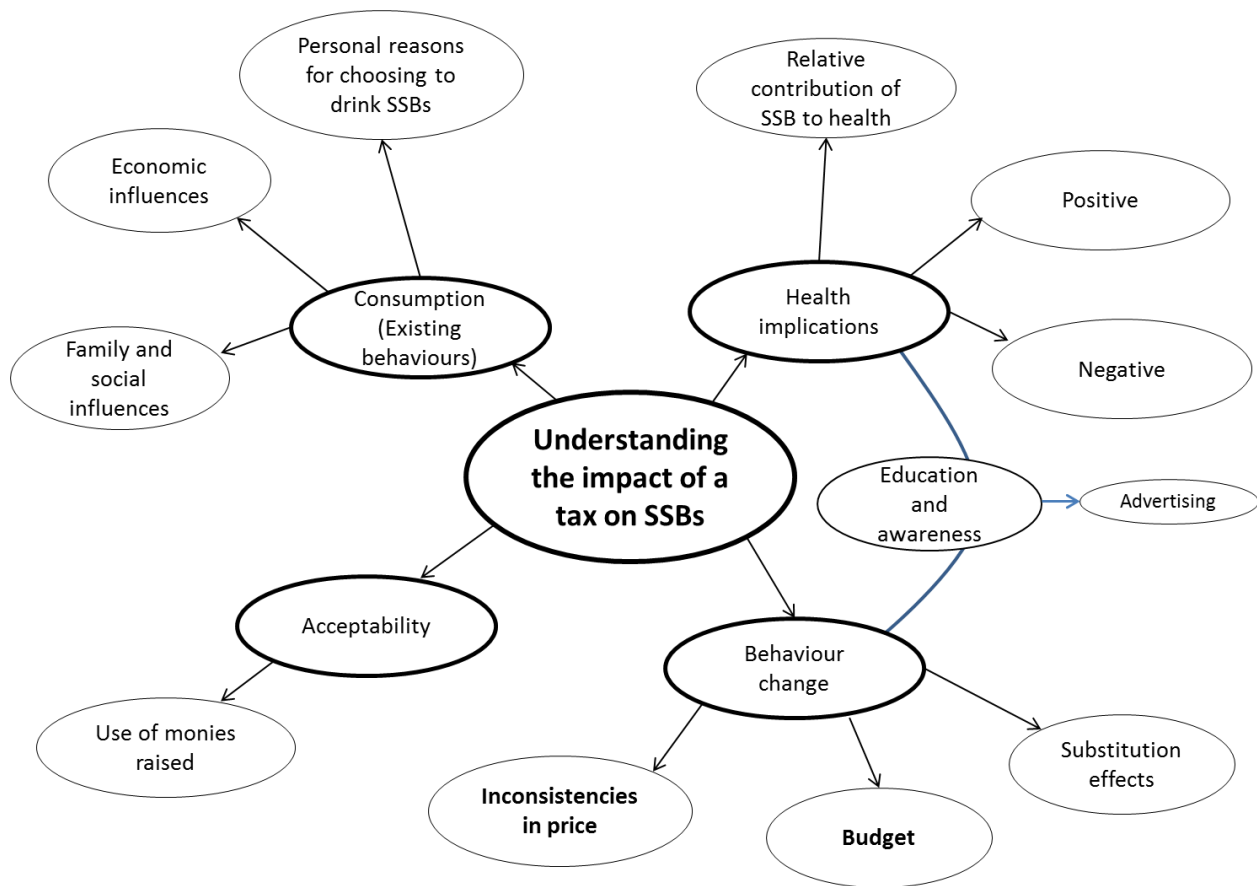


Figure 5 A conceptual model of key factors associated with SSB consumption

Consumption

The majority of participants all reported drinking SSBs. Existing consumption was influenced by age, family and social reasons. Young people consumed SSBs because they enjoyed the taste, felt that they were refreshing or that it gave them energy for studying or sports. Young people described the frequency of their consumption, with some describing that they drank them every day, with one reporting to consume them once an hour. Young people explained how they would drink SSBs in a number of different situations, with some often describing how they would go into the local shop to buy an SSB and then consume this when out with friends, or when walking home from school. Some would have them at lunch time, or at home.

Conversely, adults explained that they would have SSBs when they were out, such as in the pub for example, or when another family member bought it. Older participants explained how their upbringing had influenced their current attitudes and behaviours towards SSBs, with many describing how it was either something that was never allowed or was only allowed as a treat, or something that was regularly in the house and so consumed on a regular basis. Parents viewed SSBs as something that should be given as a treat. A number of participants of all ages mentioned that they would buy SSBs because they are low in price.

Health implications

Very few participants described the impact of SSBs on obesity. All of the participants reported that SSBs had a negative impact on health, with the majority describing the impact on dental health; all of the adults mentioned dental health, and the majority of young people did. Many parents described the negative impact on dental health as the reason they did not allow their children to regularly consume SSBs. Children, young people and adults described how SSBs could make sugar levels go up and down, and recognised that this could leave them feeling tired or ill. Some children and young people described how SSBs could be bad for organs and the heart, but were not able to elaborate on why this was. A number of adults described the negative impact that caffeine could have on the body, and stated that this was one of the main reasons that they did not drink SSBs, or allow their children to drink them on a regular basis. Despite recognising the negative impacts of SSBs on health, some participants did not feel that this would stop or reduce the consumption, or them or their family members.

Participants also described a number of health impacts that they felt were positive. These mainly related to their perceptions of SSBs providing them with energy when they needed it, and one young mother described how they drank SSBs during their pregnancy, to help to regulate their blood sugar.

Interestingly, a large number of participants, including adults, adolescents, and young children described how the negative impact of SSBs on health was relative. Some described how they felt that alternatives to SSBs, such as diet drinks, may also have a negative impact on health. A number of male and female adolescents felt that Aspartame may have negative health impacts, or that cheaper brands may contain more sugar. Some adolescents also described how regular teeth brushing and exercise could counteract the negative effect of SSBs.

Behaviour change

Many participants, of all ages, felt that a price increase on SSBs would not impact consumption. Many described how a twenty per cent increase was too small, and would not be enough to make a difference. Some participants described how they felt that the people at whom this tax would be targeted would not be motivated to change their behaviour, that they would continue to want to eat and drink the same types of foods, but that they would now have to pay more to do so. Some participants described that some people who had a lower income, and had a strict budget, may be forced to buy alternative choices.

A number of participants described the current inconsistencies in pricing, which was a key theme throughout the data. Participants described how they felt that the same brand and size of SSBs could be purchased for varying prices, depending on location. Some participants explained how they were used to prices fluctuating, and that people would go along and pay the price with a small increase, without necessarily noticing. It was felt that a large increase would have a difference, and that people would find this unacceptable. Many of the younger participants explained that they would spend whatever money they had, if they wanted an SSB. One group of young girls described that they would spend more money on an SSB, but only if it meant that they also had enough money for their lunch.

Many of the participants described how they felt that people would go out and bulk buy SSBs, if it meant that they were cheaper. However, there was an age-related influence here, with older people feeling that this was something that they would do, and younger people agreeing that this may be something that their parents would do. However, it was felt that younger people themselves would not bulk buy, as they tended to buy just one from the local shop, that they would then drink with friends, at lunch-time, or when walking home from school. Indeed, one child, aged seven, said that they would not bulk buy because *“it’d be much harder to carry”*.

Participants generally felt that if they could buy the SSB at a cheaper price from an alternative shop then they would do this. A small number of participants thought that people would just switch to a cheaper alternative, with a number of adolescent males describing how they already drank own-brand energy drinks because they were cheaper. However, the majority felt that people would not switch to diet or own-brand SSBs because they would not like the taste. Although a group of adolescent males described how they would be happy to consume own-brand energy drinks, the insight suggested this may be influenced by gender. A group of adolescent girls, and a young mother, both described how they felt that people would not switch to an own-brand SSB because of image. It was felt that people would not want to be seen carrying an own-brand drink, and that people were too materialistic to worry about a small increase in price.

Acceptability

A number of participants felt that it was acceptable to increase the price of SSBs by a small amount, such as twenty per cent. This was found to be true regardless of whether they regularly consumed SSBs or not. These participants described how the price of drinks was inconsistent anyway, and that they were sometimes used to paying more than the recommended retail price for a can or bottle of SSB. These participants however did describe that a large increase in price would be unacceptable, with some adolescents explaining that they would not be prepared to pay more than £2 for a can or bottle of SSB. A number of participants felt that it was unacceptable to increase the price of SSBs at all, and that it should be about consumer choice.

All participants agreed that they felt the monies raised through a tax on SSBs should be used for a health purpose. A small number of participants were concerned that this spend would not be transparent, and it would not be clear how much of the tax was being spent on a health purpose. Many participants described how they felt that a tax should be spent on better educating young people and families about how to eat a healthy and balanced diet.

Education and awareness

Throughout the process of gathering insight, the theme of education and raising awareness of the contents and health effects of SSBs was reflected in the data. It was clear that these issues were viewed as having an impact on whether a change in behaviour could happen as a result of a tax on SSBs. Sometimes, when participants were asked whether there was anything else that they would like to add about SSBs, they would use this as an opportunity to ask questions about the types of SSBs that they should drink, or the amount of sugar that was actually in them. A number also asked about how the tax would work, questioning whether it would be a tax within all retailers, a tax on the size of the SSB, or the amount of sugar in them. Some participants felt that a tax on SSBs would have no impact, if it was not done in conjunction with any education and awareness raising about the health implications of such a tax.

Parents often described the amount of advertising undertaken by SSBs companies, describing how drinks are often marketed directly at children, using packaging that is attractive, and advertising on children's television channels. Parents felt that this made it difficult when they are asked by their children if they can have SSBs, and felt that more should be done here to counteract this process.

4. Discussion

Our research aimed to specifically explore attitudes, behaviours and perceptions of people who would mostly likely be affected by a tax on SSBs. The study design reflected the key determinants of SSB consumption, gathering insight in areas where SSB consumption was likely to be higher (areas with high deprivation and high levels of obesity) and from people who were most likely to consume and/or be affected by a tax (children, young people, young adults and families). The findings from our study reflect existing evidence regarding levels of consumption, with the majority of our participants reporting consuming SSBs. While evidence shows that children and young people are the biggest consumers of SSBs (Rugg-Gunn et al., 2007; Ng et al., 2011), our research adds to the existing knowledge regarding understandings of the drivers of consumption, providing additional evidence and context. This insight adds an important contribution to our understandings behind the driving forces of SSB consumption.

4.1 Drivers of SSB consumption

Our research found that children and young people reported drinking SSBs for the taste or for energy; energy drinks (such as Monster, Red Bull and Lucozade) were mentioned heavily by adolescents, particularly males. Most adults described how they drank SSBs out of habit and, although not explicitly mentioned, the behaviours that children and young people described, such as drinking one SSB 'once an hour', suggested that they also drank them out of habit. Evidence shows that it can be difficult to control and change habit behaviours once they are formed (Butland et al., 2007). Evidence has also warned of the need to ensure that children do not habitually drink SSBs, due to the fact that beverage preferences and consumption patterns develop in childhood and persist over time, and that it would be difficult to break this cycle. Our findings have demonstrated how this is also true of adults who described drinking SSBs as a treat, with many describing how this was linked to their attitudes and behaviours towards SSBs as a child; their adult behaviours were based upon their childhood experiences.

Our study found that SSB consumption was also related to health, with the majority of adults who did not drink SSBs reporting that this was due in part to health reasons. A large proportion of respondents acknowledged the negative effect of SSBs on dental health, regardless of age. Our research also found that a large number of participants did not understand the relationship between health and SSBs, beyond dental health. Many participants discussed sugar and the positive and negative effects of this on energy levels, and some adolescents and young adults discussed caffeine and their perceived need for them to drink SSBs for energy. Participants viewed SSBs as a source of energy; but did not equate this excess energy intake as leading to additional calories that could lead to weight gain. Very few mentioned obesity and calories; those who did were female adults. Despite these links between consumption and health, our research found evidence to support the notion of passive overconsumption; previous studies have suggested that levels of food literacy and health knowledge can impact on the consumption of unhealthy options (Kalavana et al., 2010), and that an inability to recognise the energy density of food means that people do not compensate appropriately to maintain energy balance (Viskaal et al., 2009).

Furthermore, these findings may also be linked to control and perceived vulnerability to risk, whereby the act of being able to care for dental health (brushing teeth, visiting the dentist) may make it easier for people to believe that they are counter-balancing a negative behaviour with a positive one (Butland et al., 2007). This finding was echoed in the research as many participants, including adults and children, spoke of behaviours to counter-balance consuming SSBs, such as brushing their teeth after consuming SSBs, drinking SSBs through a straw, or reducing their consumption of SSBs due to dental problems.

Asking people to consider reasons for drinking SSBs was found to generate discussions about the relative contribution of SSBs to health. This was discussed particularly amongst adolescents and adults, who would often defend their behaviour choices by describing their perceptions about alternative options to SSBs. These participants often discussed SSBs in the context of 'being better than not drinking anything', or better than drinking diet options containing artificial sweeteners; although participants could not describe why they thought that artificial sweeteners were bad for health. This finding adds to existing knowledge regarding drivers of consumption, and suggests the need for more education around these issues if people are to be encouraged to switch from SSBs to an artificially sweetened option. Although previous research has explored the impact of artificial sweeteners on health, including diabetes (Koning, Malik, Rimm et al., 2011), body weight (Raben, Vasliaras, Moller & Astrup, 2002) and coronary heart disease (Fung, Mailk, Rexrode et al., 2009), there is still a lack of evidence surrounding any negative health consequences of artificial sweetener consumption over a lifetime (Mattes & Popkin, 2009).

The relationships between social and environmental determinants of health behaviours have been widely reported, with research recognising the important role of obesogenic environments in promoting high energy consumption and sedentary behaviours. The interactions between personal, social, political, economic and physical elements of the environment have all been identified as important influencers of health behaviour (Stokols, 1992, 1996, 2000), and need to be considered in any health promotion intervention. The findings of the present study support previous research findings which have highlighted the ease at which people can make unhealthy behaviour choices to consume SSBs, due to the heavy advertising and availability of unhealthy items in retail outlets (Burns & Inglis, 2007; Pearce et al., 2007).

Our research adds further understanding about the environments in which SSBs are consumed, and behaviours related to this. Previous research has found that the majority of SSB consumption occurs in the home environment, which is followed by food service establishments and schools (for children) (Wang, Bleich & Gortmaker, 2008; Ezendam, Evans, Stigler, Brug, & Oenema, 2010; Pomeranz, 2012; Gibson & Shirreffs, 2013). Our findings show that adults are more likely to bulk buy SSBs and have them in the home, where they and their children will consume them. Evidence has shown the strong impact of parental influence and knowledge on family behaviours, and the level of control that parents have over their children's diet (Butland et al., 2007). However, less is known about social influences on SSB consumption. Our research found that young people are more likely to buy one SSB to consume when they are out with friends, or walking home from school, and would be less likely to buy more than one. This has implications for a tax on SSBs, as it is unlikely that children and young people would bulk buy as a result of a price increase.

Evidence suggests that price is a key determinant of consumption (Epstein, Dearing, Handley, Roemmich & Paluch, 2006; Epstein, Dearing, Paluch, Roemmich & Cho, 2007) however our research suggests these influences are different depending on age. According to evidence, price frames the context in which consumer responses are made (Khan et al., 2012), and our research suggests this is true to an extent. For adults, many described the influence of price as affecting decisions about SSB consumption, buying SSBs when there is a supermarket offer on, or when it is part of a meal deal. For children and young people, many described that they bought an SSB if they wanted one, and had the money to pay for it, regardless of price. Children and young people had less concept of budget and 'meal deals'. Many children and young people described being given money from their parents (either to buy something from the shop, or as dinner money) and using this to buy SSBs; some young people described how they were happy to pay relatively large sums (such as £4) to buy an SSB. This issue again links to the passive overconsumption associated with obesogenic environments, and that young people appear to drink SSBs for taste but also convenience and because they are available.

4.2 Could tax influence behaviour?

There is currently a lack of evidence regarding acceptable levels of taxation (Mytton et al., 2012). The present study found that people generally find the notion of a tax on SSBs acceptable, but felt that 20% would not be enough to impact on consumption. Many adults felt that it would be another way for the government to increase revenue and felt they could not be certain where the monies raised would be spent. Many participants of all ages felt that the money generated from an SSB tax should be spent on education and on reducing the price of healthier items, which supports the notion of a tax in unison with subsidies on healthier items (Mytton et al., 2012; Fletcher et al., 2013).

Many of the participants in the present study felt that a price increase of 20% would not make a difference to consumption, largely due to inconsistencies in current pricing. Many participants, regardless of age and gender, felt that people would not notice a 20% increase in price, describing how SSBs were available at discount shops at much lower prices than at supermarkets and other retail outlets. Some participants suggested that people may change their behaviour if they could not afford to buy SSBs, and that they would buy a cheaper alternative instead. However, very few people felt that a 20% increase was enough to make this happen.

Many adults described how they felt that SSB consumption was due to habit, and that people would generally not be motivated to reduce their SSB consumption by a 20% increase in price. Many participants, regardless of age, described that they felt people would not switch to a diet drink because they felt it would not necessarily be a healthier option.

Although evidence suggests that food prices are determinants of consumption, the mechanisms appear to work differently depending on age. Many adults suggested that if SSB prices were increased, they may switch to buying from a different location or bulk buying instead from discount stores. However, young people felt that they would not bulk buy as most often they only wanted to buy one SSB at a time, and it would not be practical or convenient for them to buy more than one.

Our findings suggest that parents with lower income could be influenced to change consumption behaviour by SSB taxation. This would impact on the availability of SSBs to young people in the home, but would not impact on SSB consumption outside of the home, if a young person could afford it. This could be influenced by how much money a young person carries/is given by their parents, suggesting that those from lower income households who could have less personal spends may be more sensitive to a price increase (Smed, Jensen & Denver, 2007; Powell & Chriqui, 2011).

In terms of switching to a non-SSB, many participants felt that people would not buy a different brand or switch to a diet alternative because of taste. Image was also mentioned by some young people and some adults as reason why people may not switch a non-branded SSB.

Behavioural approaches to tackling obesity have had limited success because “people struggle against environments which increasingly promote a high energy intake and sedentary behaviours” (Swinburn, et al., 1999, p.563). Given the associations between the availability, convenience and advertising on SSB consumption, the impact of a tax would also be dependent on environmental factors. Behaviour change theories have been criticised for expecting the individual to motivate themselves to change their behaviour, without considering external economic and social processes. Evidence suggests that creating an environment which supports and facilitates behaviour at these levels creates a passive intervention which will be effective and sustainable in the longer-term (Stokols, 1996). Advertising and education would be important considerations, in terms of highlighting

the health implications of SSBs, beyond dental health, and dispelling myths about the health implications of alternative options.

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Appendix

1. Focus group / Interview guide

This guide is for the interviews/focus groups undertaken with young families, parents, adolescents and users of lifestyle and weight management services

Awareness and setting context for interview

What do you think of when we say SSBs?

- Prompt: what kind of drinks do you think we mean?

Interviewer: Description to set context for the interview: When we ask about SSBs, we mean drinks such as fizzy drinks like coca cola & lemonade, fruit drinks, sports drinks, energy drinks and sweetened ice teas.

Interviewer: Show pictures of the drinks at this point to help illustrate

Consumption

Do any of you drink SSBs at all?

- If yes:
 - How often do you drink SSBs?
 - (Prompt: How many a day/week)
 - Which types of SSBs do you drink?
 - (Prompt: Brand, type of drink? Fruit juice or energy drink etc.)
 - Why do you drink SSBs?
 - (Identify if for reward, energy, taste, and hydration). Do they use SSBs as a reward for their children?
 - Where are you most likely to consume SSBs?
 - (Prompt: At home, at work, at school, at college)
 - If at home for some members of the family; do you share SSBs as a family in the home?
 - Where do you buy SSBs from most?
 - (Prompt: School, local shops, supermarkets, fast food outlets)
 - Why do you buy most SSBs from [setting e.g. supermarket/school/place of purchase]?
 - Price, availability, lack of other options?

If they do not drink SSBs:

- Why do you not drink SSBs?
 - (health, price, taste)
- Have you ever drank SSBs?
 - What made you stop? (Health, cost etc.)
- What do you typically drink?
 - Water etc. Does this include diet non SSBs e.g. diet coke?
 - If diet, why do you drink non SSBs?

****Add questions for Parent Interviews here** (see end of guide)**

**** Add questions for Lifestyle Weight Management interviews here** (see end of guide)**

Health

Do you think there are any effects of SSBs on health?

- If yes: What do you think these effects are?
- Do you feel there are any positive effects on health when drinking SSBs?
 - Attitudes towards SSBs; do they feel it is healthy?
- Do you feel there are any negative effects on and health when drinking SSBs?
 - Are they aware of weight gain, the extra calories, increased energy intake, increased sugars etc.?

Interviewer: Irrespective of response, briefly explain to the participants that SSBs are related to obesity, and that a tax on SSBs is being considered as a way to reduce consumption amongst the public.

Tax/Economic influences

Research suggests that any tax would need to be at least a 20% increase in price on all SSBs to have a significant effect on obesity and weight gain. We would now like to ask your views on some different scenarios.

Pictures of SSBs and prices will be used to help to illustrate the point of each scenario.

If people answered 'no' to the question 'do you drink SSBs', then all scenario questions will be asked in the third person to elicit information about what they think other people might do

Scenario 1 All SSBs are increased in price by 20% and a standard small bottle of coca-cola (500ml) [show a bottle to scale] increases in price by 20%, meaning the price would be £1.38 instead of £1.15.

- Do you think this increase in price would affect how often you (or people) buy SSBs?
 - Do you think you (or people) would buy SSBs less often?
 - If yes;
 - Why?
 - Would you (or people) stop buying SSBs completely?
 - Would you (or people) buy anything else instead? (Beverage, food etc.?) *Links to substitution effects.* What would you (or people) drink instead?
 - If no;
 - Why? What are the reasons etc?

Substitution effects

Scenario 2 A supermarket is offering a case of 24 coca-cola 500ml bottles of for a total price of £19.87, including the 20% price tax rate, meaning each bottle is 83p rather than the individual price of £1.38.

- How would this affect what you (or people) buy?
 - Would you (or people) bulk buy/buy more of these instead of buying single bottles?
 - If yes;
 - Why?
 - If no;
 - Why?

A supermarket is offering their **own brand** of coca-cola at a discounted rate, with a standard small bottle of cola (500ml) priced at 40p (20% tax increase included). A standard bottle of coca-cola of the same size (500ml) is £1.38.

- Would you (or people) buy these types of cheaper own brand beverages?

- If yes;
 - Would you buy these more often than standard branded SSBs?
- If no:
 - Why?

Scenario 3

All SSBs are increased in price by 20%. 500ml of sugar free beverages, such as diet coke, sugar free sprite and other brand names are **now cheaper than SSBs**, priced at £1.15 instead of £1.38,

- Would you (or people) buy these drinks instead of an SSB of the same size?
 - If yes; why?
 - If no; why?

Public acceptability

What are your opinions on a tax on SSBs?

- Do you think this is an acceptable way to try and tackle obesity?
- Do you think these duties will have a positive impact on people?
 - Reduce consumption, reduce obesity etc.
- Do you think these duties will have any negative effects on people?
 - Impact on poor, no impact on obesity etc.

Do you think a 20% tax (e.g. 20% price increase) for SSBs is acceptable?

- If yes;
 - What makes you say yes?
 - Reasons, health etc.?
- If no;
 - Why do you feel this is unacceptable?
 - Do you think a lower level of tax is acceptable?
 - Prompt: e.g. 10% - a 10p increase, 15%, or none.*

Other countries, such as Algeria, France and Hungary, have used the money generated from their SSB tax for health causes, including cancer prevention, health and agriculture investment and obesity prevention. If the money generated from health related tax on SSBs were used for health purposes such as these, how would this affect your opinion of health related food/drink duties?

Prompt: would you see a 20% SSB duty as more acceptable, if it were used towards health purposes?

- If no;
 - Why?
- If yes;
 - Why?

What do you think the money generated from a tax should be used for?

- Prompt: What should that money be spent on?
- Prompt: Healthcare? Obesity activities?

Thank and close

Additional questions for Parent Interviews

Do your children drink SSBs at all?

- How often do you think they drink SSBs?
 - (How many a day/week)

- Where do they drink SSBs most?
 - o School, at home.
- Do they buy SSBs of their own accord?
 - o Prompt e.g. with their own pocket money, in School?
- Do you buy SSBs for your children?
 - o Which SSBs do you buy?
 - o Do you use SSBs as a reward for your children?

Additional questions for Lifestyle and Weight Management interviews

Was there a time when you drank more SSBs than you are drinking at the moment?

- If yes;
 - o What did you drink? How much more did you drink then?
 - Daily amount/Weekly amount of SSBs
 - o Why did you reduce your SSB intake?
 - Was this due to health reasons? Any other reasons?
 - o Prompt: Did you reduce your intake as a result of coming to a LMS service?
-

2. Children's focus group guide aged 4-16 years

Spread pictures of Sugar Sweetened Beverages (SSBs) and Non-SSBs on a table at the beginning of the session, with blue-tac stuck to the back of the pictures. Drink pictures will include, coca-cola, lemonade, energy drinks (Lucozade), cordial, fruit drinks, fruit squash drinks, diet coca-cola, diet lemonade and water.

Awareness and setting context for discussion

What do you all think of when we say Sugar Sweetened drinks?

Prompt: what kind of drinks do you think we mean?

Here are some pictures of different types of drinks [point to pictures on the table]; so now I'm going to hold each one up, and I'd like you all to tell me which one is a drink with sugar in it, and which one is not, ok? Together, we are going to sort them into sugary drinks on this side (left) and drinks without any sugar on this side (right).

- So is this one with sugar or without sugar?

Hold up each picture when asking the children to decide if they contain sugar or no added and sugar, and then stick the picture to the wall/table on the left or right had side based on what they say. Cast a vote on any if the children some children are undecided. Put all the pictures on either the right or the left, and if children are all undecided put the picture in the middle.

That's great everyone, thanks. So when I say Sugar Sweetened drinks: I mean drinks with added sugar in them. So let's have a look at what drinks we think have sugar in them, and which don't.

Turn to the drink pictures. Identify if any pictures have been put into a non-sugar category which have sugar and vice versa, and draw the children's attention to these drinks e.g. this Lucozade has actually got sugar in it, so we'll put this over there with the others.

Consumption

Now, what I would like you to do, is take some post-its and come up here, and stick post-its on the drinks that you drink.

Questions to follow this exercise:

So, to check then, how many of you drink SSBs? (Show of hands)

- How often do you drink SSBs?
 - (Prompt: How many a day/week)
- Why do you drink SSBs?
 - (Identify if for reward, energy, taste, look and hydration)
- Are you allowed to buy SSBs?
 - Do you buy it yourself?
 - Does someone else buy it for you?
 - Who?
- Where do you drink SSBs?
 - School, at home, in fast food outlets

- Where do you drink the most SSBs?
 - Do any of your friends drink SSBs?

If they do not drink SSBs:

- Why do you not drink SSBs?
 - (health, price, taste)
- Have you ever drunk SSBs?
 - What made you stop? (Health, cost etc.)
- What do you typically drink?
 - Water etc. Does this include diet non SSBs e.g. diet coke?
 - If diet, why do you drink non SSBs?

Health

Do you think SSBs can affect health?

- If yes: What do you think these effects are?
- Are these good or bad?
- Why?

Tax/Economic influences

Show pictures of drinks and prices to help to illustrate the point

If the price of SSBs was to be increased, say from £1 to £1.20 would this affect how much you buy?

- If yes: why
- If no: why not?

If the price of SSBs was to be increased, say from £1 to £1.20 would this affect how much your parents buy?

- If yes: why
- If no: why not?

If the price of SSBs was to be increased, say from £1 to £1.20 would this affect how much your friends buy?

- If yes: why
- If no: why not?

Public acceptability

Do you think that increasing the price of these drinks will stop people buying them?

- If yes: why
- If no: why not?

Do you think it's okay for health organisations to try and stop people buying SSBs by increasing the price?

- If yes: why
- If no: why not?

Some countries, like France, have tried this before. They've used the extra money from the price increase and spent it on health services. What do you think about this idea? Why?

What do you think the extra money should be spent on?

Thank and close

3. Survey questions

Please tick here to show you understand the purpose of the survey, and are happy to take part

1. Are you?

- Male Female

2. How old are you?

- <16 16-19 20-24
 25-29 30-34 35-39
 40-44 45-49 50-54
 55-59 60+

3. What is your postcode? (We will not use this information to identify or contact you, we just need to find out which areas people live in)

4. How would you describe your ethnic origin? (Please tick only one)

- White British Black/black British
 White Irish Asian/Asian British
 White European Mixed white and Asian
 Mixed white and black Other (please specify)

5. When we talk about SSBs, we mean drinks such as fizzy drinks like coca cola & lemonade, fruit drinks, sports drinks, energy drinks and sweetened ice teas. Do you drink SSBs?

- If yes:

How often?

Daily Approx how many per day?

Weekly Approx how many per week?

Monthly Approx how many per month?

Why do you drink SSBs?

- Like the taste Routine/habit
- As a treat As a pick-up/to give me energy
- Sports Cheap in price
- Not sure Other reason (please specify) _____

If no:

Why not?

- Don't like the taste Health reasons
- Too expensive Not sure
- Other reason (please specify) _____

6. Would an increase in the price of SSBs reduce consumption?

Yes

How?

- People would drink less
- People would buy the SSBs elsewhere
- People would stop buying completely
- People would buy something else

No

7. Do you think increasing the price of SSBs is acceptable?

Yes

No

8. Would an increase in the price of SSBs have a positive impact on people?

Yes

How?

Reduce consumption

Reduce obesity

Improve health

Other _____

No

How?

Impact on the poor

Impact on industry

Other _____

9. Do you think a 20% increase in the price of SSBs is acceptable?

Yes

No

If no, suggest other _____

10. Would a 20% increase in the price of SSBs be acceptable if the money was used for health purposes?

Yes

No

If no, suggest other _____

11. Is there anything else you would like to add about your opinion of SSBs that we haven't already asked you?

Thank and close

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