Body-related bullying, desire to lose weight and negative health behaviours among young people in the United Kingdom: a secondary data analysis

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Abstract. Background: There has been an increase in the prevalence of body dissatisfaction and a desire to lose weight among young people. This trend presents as a concern, particularly at a time of important developmental growth, as well as a period characterised by increasingly autonomous eating habits and other health behaviours. Similar to other countries, body-related (BR) bullying in the United Kingdom (UK) may significantly contribute to young people's desire to lose weight. Therefore, this paper examines the relationships between weight loss desire and a number of health behaviours, as well as BR bullying, among young people who wish to lose weight. Methods: Data were extracted from the 2017 Health-Related Behaviour Questionnaire. A total of 26,911 school-aged young people in Years 8 and 10 (11-16 year olds) were analysed across the UK. Results: Overall, 45.1% of young people expressed a desire to lose weight, with a prevalence rate of 24.7% recorded for those who experienced BR bullying. Young people wishing to lose weight were significantly more likely to skip meals (24.4% vs. 13.2%), smoke (17.3% vs. 13.2%) and consume alcohol (14.7% vs. 10.7%), as compared to those who were not losing weight ($p<0.001$). Unhealthy food intake was significantly higher in the weight loss-wishing cohort than for those with no desire to lose weight. No significant relationship occurred between weight loss desire and frequent physical activity, while the former was significantly associated with frequent sedentary behaviours ($p=0.030$). Young people wishing to lose weight, who were the subjected to bullying, were more likely to skip meals, smoke and drink alcohol than the non-bullied cohort ($p<0.01$). This was true of both males and females, with the exception of alcohol consumption, which manifested for females only. A significant relationship occurred between being bullied and frequent sedentary behaviour in males only ($p<0.003$). Conclusion: Young people wishing to lose weight are more likely to exhibit negative health behaviours than those who do not wish to lose weight. BR bullying was found to generate greater negative effects in the weight loss-wishing group. Physical and mental health weight management supports are required for young people.

Keywords: Weight; Loss; Body; Bullying; Health; Behaviour.

1. Introduction

From a demographic perspective, body dissatisfaction was found to be most prevalent among young people, where it may exert an impact on health behaviours [1]. Body- related (BR) concerns regarding body shape, weight and appearance increases body dissatisfaction, thus promoting greater weight loss desire. Young people attempt to lose weight primarily because they perceive themselves to be "fat", as compared to others [1].

Studies have recommended the development of a youth-orientated weight loss strategy [2, 3]. Furthermore, young people who desire to lose weight are more likely to binge eat, diet and engage in unhealthy weight control behaviours, such as skipping meals, smoking and fasting; these negative health behaviours contribute to weight gain, as well as increasing the risk of obesity [4,5]. Moreover, the secondary school cohort selected were undergoing transition from youth to adolescence and then adulthood, which represents a time of increasing autonomy in terms of daily food intake and other health behaviours, possibly attributable to greater economic independence and new living environments [4].

Some young people seeking to lose weight are overweight or obese, with indisputable evidence indicating that obesity rates are increasing globally [6]. Overweight or obese children are at higher risk of obesity in adulthood than their non-overweight peers [7]. As they mature, they may gain weight more quickly, which not only creates obesity-related risks, but also comorbidities [8, 9]. Therefore, it is crucial to lose weight and subsequently maintain a healthy weight in an appropriate and safe manner.

Some young people wishing to lose weight are in the normal weight range, but may have a bigger body size than their peers, as they experience rapid grow spurts during this time period, leading to obvious body size differences, for example, in height [10,11]. They may also overestimate their weight [1], resulting in the need for greater self-awareness, as opposed to engaging in negative weight loss behaviours.

In addition, an ever-increasing body of research is highlighting the influence mental health may have on negative health behaviours, in particular, BR bullying. The latter can be defined as the bullying of young people as a result of their body weight, body size or the way in which they look [10]. This phenomenon is prevalent among young people throughout the world. For example, in Japan, 23.9% of young people have experienced BR bullying (32.5% females vs. 16.4% males), while in the United States (US) its prevalence rate is 25.8% [10, 12]. It may occur due to physical comparisons being made between peers, in particular females, who are generally more concerned about their looks and weight [10, 11, 13]. This may explain why the prevalence rates of BR bullying are higher among females. BR bullying is also associated with weight status in young people [10, 13], thus encouraging weight loss behaviours.

Lampard et al. reported a BR bullying prevalence rate of 25.8% among young people in the US [2]. Young people may also display higher body dissatisfaction levels when exposed to BR bullying [14]. Moreover, a five-year follow-up study found that males are more likely to binge eat, while females engaged in frequent dieting behaviour in order to lose weight [13]. In addition, young people subjected to BR bullying may have lower selfesteem and be more prone to depression [15]. This raises the question as to whether BR bullying results in youth people engaging in negative weight loss behaviours.

While research has been undertaken in countries such as the US and Japan to investigate the correlation between weight loss desire and health behaviours, few UK-based studies have been conducted. In addition, there is little evidence associating BR bullying and health behaviours among young weight loss seekers. It was hypothesised that weight loss, among young people, may exert a negative effect on health behaviours, not only including skipping meals, smoking and drinking alcohol, but also restricting both healthy and unhealthy food intake, with no change occurring in the frequency of engagement in physical activity. It was also hypothesised that young people, who wish to lose weight, subjected to BR bullying may be more likely to exhibit negative health behaviours than their non-bullied peers.

2. Methods

2.1 Data collection

The Schools Health Education Unit (SHEU; www.sheu.org.uk) provided data for the current analysis, gathered from young people in participating UK primary and secondary schools, using the Health-Related Behaviour Questionnaire. The SHEU is an independent research unit which provides investigation, research and evaluation services to education and health authorities. From 1985 onwards, it has collected data annually from primary and secondary students across the UK in relation to smoking, sexual health, alcohol consumption, safety, eating behaviours and physical activity using the Health-Related Behaviour Questionnaire. This questionnaire is completed under school staff supervision, and parents are also informed. No information is available to date on students who do not be asked to complete the questionnaire. Out of a total of 100,976 participants in 2017, 20,267 were included in the current study.

Young people included in the current analysis were required to be:
(1). Studying in Year 8 or Year 10;
(2). Asked about their weight loss desires;
(3). Asked about being subject to body-related bully.

2.2 Measurement

Demographics. Participant gender and year of study were recorded.

Weight loss desire. Participants were asked "Your weight – which statement describes you best?" and asked to select one of three statements: "I would like to lose weight"; "I would like to put on weight" or "I am happy with my weight as it is". In addition, Participants who selected latter two responses were assigned to the group of "not losing weight"; and those who selected " would like to lose weight" were assigned to the group of "losing weight".

Body-related bullying. Participants were asked "Do you think you are being 'picked on' or bullied for your size or weight?" or "Do you think you are being 'picked on' or bullied for the way you look?" and asked to selected "No" or "Yes". Participants who responded "No" were assigned to the group of "not bullied"; and those who responded "Yes" were assigned to the group of "bullied".

Skipping meals. Firstly, participants were asked "What type of breakfast did you have this morning?" and asked to choose "Conventional breakfast", "Porridge/ Ready breakfast", "Something else", "Just fruit juice", or "Nothing at all". The latter two responses were indicative of breakfast skipping. Secondly, participants were asked "Did you have lunch yesterday?" and asked to select "Yes" or "No"; or those were asked "What type of lunch did you have yesterday?" and asked to select "I ate a school lunch", "I ate a packed lunch", "I ate lunch from takeaway or shop", "I went home and ate lunch" or "I did not eat any lunch". The responses of "No" and "I did not eat any lunch" were indicative of lunch skipping. Participants who skipped breakfast and/ or lunch were classified as skipping meals; and those who skipped neither breakfast nor lunch were classified as not skipping meals.

Dietary index. Participants were asked to rate, "How often do you eat the following 'diet' items per week?", where 0 = "Never or rarely", 1 = "Once a week", 2 = "2–3 days a week", 3 = "on most days" or "everyday". Healthy food items included "Whole bread", "High-fibre cereals or muesli", and "Salads, vegetables or fresh fruit"; unhealthy food items included "Crips", "Chips or roast potatoes", "Sugar-coated cereals", "High energy drink", and "Sweets, chocolate, choc bars". Healthy food index scores ranged from 0–9, where 0 was indicative of participants rarely or never consuming healthy food, while 9 meant that respondents consumed healthy food on most days of a week. In contrast, the unhealthy food index ranged from 0 (rarely or never consumed unhealthy food) to 12 (consumed unhealthy foods on most days of a week).

Smoking. Participants were asked to answer, "How many cigarettes have you smoked during the last 7 days?" Answers ranged from zero to the number smoked. Participants that answered "zero" were classified as not smoking; those that answered any number more than this were classified as smoking.

Drinking alcohol. Participants were asked to answer, "How many units of alcohol did you consume in the last 7 days?" Answers ranged from zero to the number of alcohol units. Participants that answered "zero" were classified as not consuming alcohol; those that answered any number more than this were classified as drinking alcohol.

Frequency of physical activity. Participants were asked "How many days last week did you exercise?" and asked to select 0 to 7 days; or participants were asked "How often do you do physical activity per week?" and asked to select "Never", "Sometimes", "Often", or "Always". Participants who reported more than or equal to 3 days and selected "Often" or "Always" were classified as doing the frequent physical activity; and those who reported other responses were classified as not doing the frequent physical activity.

Frequency of sedentary behaviour. Participants were asked "How often did you spend watching TV programmes or playing computer games after school per week?" and asked to select "Never",

"Sometimes", "Often", or "Always". Participants who selected "Often" or "Always" were classified as doing the frequent sedentary behaviour; and those who reported other responses were classified as not doing the frequent sedentary behaviour.

2.3 Data analysiss

All data were analysed using SPSS for Windows (Version 21), at significance level $p<0.05$. The normality of continuous data was assessed using the Kolmogorov-Smirnov test. Continuous data were presented as means with standard deviations. Categorical data were presented as numbers and percentages (%). Differences between categorical variables were assessed using Chi-square tests and continuous, non-Gaussian variables using Mann-Whitney U tests.

3. Results

3.1 Response rates

Data analysis was conducted on 26,911 participants drawn from 203 UK secondary schools.

3.2 Participant profile

The sample contained 13,573 (50.4%) and 13,338 (49.6%) young people in Years 8 and 10, respectively and they were 11–16 year olds (data not shown in table 1). As shown in Table 1, approximately half the participants (45.1%) would like to lose weight, while 24.7% had experienced BR bullying. Overall, 46.6% of young people were happy with their weight, while 45.1% desired to lose weight and 8.3% wanted to gain weight (data not shown in tables). A higher proportion of females than males would like to lose weight (55.4% vs. 34.2%, respectively).

Table 1. Participant profile

	Male	Female	Total
N (%)	13071 (48.6%)[a]	13840 (51.4%)[a]	26911 (100%)[a]
Not losing weight	8596 (65.8%)[b]	6166 (44.6%)	14762 (54.9%)[a]
Losing weight	4475 (34.2%)[b]	7674 (55.4%)[b]	12149 (45.1%)[a]
Not bullied	10378 (79.4%)[b]	9889 (71.5%)[b]	20267 (75.3%)[a]
Bullied	2693 (20.6%)[b]	3951 (28.5%)[b]	6644 (24.7%)[a]

[a.] The number of participants (percentage of the total sample)
[b.] The number of participants (percentage of males and females)

3.3 Health behaviours

Within this sample (N=26,911), 45.1% (n=12,149) students reported that they wished to lose weight. As shown in Table 2, weight loss desire was strongly significantly associated with skipping meals, smoking and drinking alcohol ($p<0.001$), respectively. No statistically significant difference existed between groups "not losing weight" and "losing weight" in terms of the healthy food index. However, young people who desired to lose weight significantly reduced their unhealthy food intake, as compared to non-weight losers. A positive association occurred between losing weight 10 and frequent sedentary behaviours ($p=0.030$). However, weight loss desire and frequent physical activity were not statistically related. This was true of both male and female groups.

3.4 BR bullying

A significant relationship exists between bullying status and desire to lose weight ($p<0.001$, N=26,911, data not shown in table 2,3). In a subgroup analysis of all students wishing to lose weight (n=12,149), 62.2% (n=7,561) were never bullied, while 37.8% (n=4,588) of those who did report

bullying (39.2% females vs. 35.3% males) did wish to lose weight. As shown in Table 3, those experiencing BR bullying were significantly more likely to skip meals, smoke and drink alcohol ($p<0.001$) than those who were not; they also reported a significant decrease in intake of unhealthy foods ($p=0.002$), but no difference occurred between the two groups on the healthy food index. Moreover, BR bullying was strongly significantly associated with an increase in sedentary behaviours, in males only ($p<0.001$). In addition, frequent physical activity was not associated with bullying status.

Table 2. The relationship between weight loss desire and health behaviours among young people

	Number of participants (N)	Not losing weight	Losing weight	P-value
Total samples				
Skipping meals	24671	1770 (13.2%)[a]	2741 (24.4%)	< 0.001
Dietary index				
Healthy food index	21434	11636 (3.88±3.49)[b]	9798 (3.95 ± 3.42)	NS[c]
Unhealthy food index	21811	11728 (3.80±1.84)	10083 (3.46 ± 1.82)	< 0.001
Smoking	25987	1871 (13.2%)	2029 (17.3%)	< 0.001
Drinking alcohol	24599	1391 (10.2%)	1622 (14.7%)	< 0.001
Frequent physical activity	6431	1293 (36.5%)	1006 (34.9%)	NS
Frequent sedentary behaviour	21405	3485(29.4%)	2856(29.9%)	0.030
Males				
Skipping meals	12010	984 (12.5%)	822 (19.7%)	< 0.001
Dietary index				
Healthy food index	10446	6796 (3.69 ± 3.44)	3650 (3.76 ± 3.36)	NS
Unhealthy food index	10617	9856 (3.78 ± 1.84)	3761 (3.39 ± 1.78)	<0.001
Smoking	12579	1035 (12.5%)	608 (14.1%)	0.044
Drinking alcohol	11950	924 (11.7%)	572 (14.1%)	< 0.001
Frequent physical activity	2928	805 (41.2%)	376 (38.7%)	NS
Frequent sedentary behaviour	10501	2382 (34.2%)	1331 (37.6%)	< 0.001
Females				
Skipping meals	12661	786 (14.1%)	1919 (27.1%)	< 0.001
Dietary index				
Healthy food index	10988	4840 (4.24 ± 3.53)	6148 (4.07 ± 3.45)	NS
Unhealthy food index	11194	4872 (3.83 ± 1.84)	6322 (3.51 ± 1.84)	<0.001
Smoking	13408	836 (14.0%)	1421 (19.1%)	< 0.001
Drinking alcohol	12649	467 (8.2%)	1050 (15.1%)	< 0.001
Frequent physical activity	3503	488 (30.7%)	630 (32.9%)	NS
Frequent sedentary behaviour	10904	1103 (22.6%)	1525 (25.3%)	< 0.001

[a.] The number of participants (percentage of participants not wishing or wishing to lose weight)
[b.] The number of participants (mean ± standard deviation of mean)
[c.] NS: No significant relationship between weight loss desire and the variable analysed ($p>0.05$)

Table 3. The relationship between BR bullying and health behaviours among young people wishing to lose weight

	Number of participants (N)	Not bulled	Bulled	P-value
Total samples				
Skipping meals	11250	1426 (20.3%)[a]	1315 (31.1%)	< 0.001

Dietary index				
Healthy food index	9798	6115 (3.95 ± 3.43)[b]	3683 (3.96 ± 3.41)	NS[c]
Unhealthy food index	10083	6314 (3.50 ± 1.79)	3769 (3.39 ± 1.86)	0.002
Smoking	11760	1107 (15.1%)	922 (20.9%)	< 0.001
Drinking alcohol	11028	939 (13.4%)	683 (16.9%)	< 0.001
Frequent physical activity	2885	643 (35.1%)	363 (34.4%)	NS
Frequent sedentary behaviour	95667	1785(29.4%)	1071(30.6%)	NS
Males				
Skipping meals	4165	469 (17.4%)	353 (24.1%)	< 0.001
Dietary index				
Healthy food index	3650	2358 (3.79 ± 3.37)	1292 (3.70 ± 3.34)	NS
Unhealthy food index	3761	2451 (3.42 ± 1.75)	1310 (3.32 ± 1.82)	NS
Smoking	4318	359 (12.8%)	249 (16.4%)	0.005
Drinking alcohol	4057	366 (13.7%)	206 (14.8%)	NS
Frequent physical activity	972	233 (38.1%)	143 (39.6%)	NS
Frequent sedentary behaviour	3540	843 (36.1%)	488 (49.5%)	0.033
Females				
Skipping meals	7085	957 (22.1%)	962 (34.8%)	< 0.001
Dietary index				
Healthy food index	6148	3757 (4.05 ± 3.47)	2391 (4.10 ± 3.43)	NS
Unhealthy food index	6322	3863 (3.56 ± 1.82)	2459 (3.43 ± 1.88)	NS
Smoking	7442	748 (16.5%)	673 (23.2%)	< 0.001
Drinking alcohol	6971	573 (13.3%)	477 (18.0%)	< 0.001
Frequent physical activity	1913	410 (33.6%)	220 (31.7%)	NS
Frequent sedentary behaviour	6027	942 (25.3%)	583 (25.3%)	NS

[a.] The number of participants (percentage of participants who have or have not been BR bullied wishing to lose weight)
[b.] The number of participants (mean ± standard deviation of mean)
[c.] NS: No significant relationship between BR bullying and the variable analysed (p>0.05)

4. Discussion

The strengths of this study include its large sample size (N=26,911), comprising up-to-date data, collected in the last year and sourced from a wide range of schools (N=203) across the UK. This is the first study of its kind to investigate the relationship between weight loss desire and BR bullying in relation to a number of health behaviours in a UK sample. It demonstrates that young people wishing to lose weight (45.1%) are significantly more likely to exhibit negative health behaviours. It also indicates that 24.7% of young people (20.6% males vs. 28.5% females) have experienced BR bullying, which was significantly associated with increasing the incidence of these negative health behaviours.

4.1 Weight loss desire and health behaviours

The current analysis demonstrated significant discontent regarding body size among young people, as only 46.6% of the sample reported being happy with their current weight. Discontent manifested as a desire to lose weight, particularly among females (55.4% vs. 34.2% males). In a ten-year longitudinal US study (1998–2008), which drew on the same age cohort as this paper, body dissatisfaction in females (ranging from 27.3–30.8%) was higher than those reported by males (ranging from 23.0–25.3%), while a positive relationship between body dissatisfaction and age was found among females [16]. These findings concur with previous studies which have reported a

significant positive relationship between body dissatisfaction and body mass index (BMI). In addition, the increasing prevalence of obesity within this ten-year period could also explain why body dissatisfaction levels are higher nowadays than in 2008 [17, 18].

Most young people are dissatisfied with their body image and wish to lose weight, as they perceive themselves to be either overweight or aspire to be thinner [2]. With 45.1% of this study's cohort wishing to lose weight, this is a positive development, in light of the high prevalence of obesity generally among this age cohort in UK [19]. Furthermore, this research has shown that the intake of unhealthy food among young people wishing to lose weight is significantly less than those who do not wish to lose weight, while there was no difference in healthy food intake between these two groups. A study conducted by Brown et al. showed that 84% of young people seeking to lose weight decreased their consumption of unhealthy foods [2]. Accordingly, there is strong evidence to associate unhealthy food consumption, such as crisps and energy-dense drinks, with exerting a negative influence on weight control [20]. In addition, a decrease in the consumption of healthy foods, such as fruit and vegetables, is not recommended in young people who would like to lose weight. Therefore, weight loss desire could have health benefits for young people due to their decrease in the intake of unhealthy foods.

However, the weight loss strategies adopted by young people may be of a significant public health concern. Previous research has demonstrated that, as compared to young people who have no desire to lose weight, those who do are significantly more likely to display unhealthy eating behaviours, including skipping meals and other poor eating habits, as well as smoking behaviours [21]. The latter study did not analyse the effect of each variable individually. However, this paper has shown that young people wishing to lose weight are very significantly more likely to skip meals, smoke and consume alcohol.

In this study, young people wishing to lose weight were significantly more likely to skip meals, as compared those who did not want to lose weight (24.4% vs. 13.2%). In addition, a significant gender effect was found to occur (female 27.1% vs. male 19.7%). In a US-based study, Brown et al. reported that 35% of young people attempted to lose weight by skipping meals [2]. While the later study's rates are approximately 10% higher than reported in our UK sample, their data were collected seven years earlier. Clearly, one effective weight loss strategy is to decrease one's overall energy intake.

According to Senekal et al., young people skipping meals typically believe that by restricting energy intake by this method they will lose weight [3]. However, the frequency of meal consumption could be inversely associated with obesity in young people [21, 22]. It is proposed that an over-compensatory mechanism could occur, whereby the energy content of the remaining meals or eating opportunities increases. Conversely, other research has demonstrated that skipping meals can be an effective strategy, to some degree, whereby House et al. found in a US study that 8–18-year-olds who skipped meals had less energy intake per day overall [23]. Notwithstanding this, House et al. also demonstrated that skipping meals among an overweight cohort was also associated with more body fat in their visceral adipose tissues than normal consumers who did not skip meals [23]. While a decrease in total energy intake per day occurs in young people who skip meals, nonetheless, an increase of triacylglycerol in their blood could also augment fat storage, in particular, in their visceral adipose tissues, as compared to young people who do not skip meals. House et al. explained that this is potentially due to the energy intake per meal or eating occasions being greater in meal skippers than in those not adopting this behaviour pattern [23].

While skipping meals is neither a universally sustainable weight loss strategy nor a healthy behaviour, nonetheless, it is common among all young people and also typically associated with weight loss desire. It continues to remain a concern, as evidenced by other study findings. A Korean study, for example, reported that meal skippers, in particular females, consume less fresh vegetables, fruits and dairy products, and are also more likely to be obese than young people who eat regular meals [24]. This indicates that young people need to be encouraged to eat meals; however, their

resistance to doing so may present as a major barrier to overcoming or addressing this issue. Therefore, young people need to be made aware that meal skipping is not an effective approach to weight loss.

The results of this study also indicated that 17.3% of young people (19.1% in females vs. 14.1% in males) who wish to lose weight are smokers, and where a significant association was found to occur between both. In a US-based study, 46% of females and 30% of males from school Years 6–10 used smoking as a weight loss method [25]. Similarly, Neumark-Sztainer et al. reported that weight loss desire is significantly associated with smoking in females among young people [26]. Audrain-McGovern and Benowitz contended that smoking may cause weight loss by increasing metabolism rates and decreasing appetite [27]. As data were collected from 2001–2006 for Cawley, Dragone and von Hinke's study, there may be a greater awareness nowadays among young people of the harmful effects of smoking [25]. However, the number of young people using smoking to lose weight remains significantly high and warrants attention. Clearly, it causes harmful physical health effects in young people, as well as long-term, adverse risks in adulthood [28]. Consequently, smoking should not be used as a weight loss method. Therefore, education programmes should not only focus on the adverse effects of smoking, but also on healthy weight loss strategies.

Young people wishing to lose weight are more likely to consume alcohol, as compared to those who do not want to lose weight. However, few recent studies have specifically examined the relationship between alcohol and weight loss. While alcohol consumption may be employed as a coping mechanism in response to negative psychological factors [29], it has been shown to be directly harmful to brain development [30] and increases the risk of non-intentional dangerous or illegal behaviours, such as car collisions [31]. From a public health perspective, there is a need to investigate specific as opposed to general motives for alcohol consumption, such as enhancement and coping motivational factors. Weight loss desire could be one determinant prompting alcohol initiation among young people. Therefore, the promotion of coping mechanisms and supports which avoid alcohol consumption are recommended for those wishing to lose weight.

In this study, weight loss desire was not found to be related to frequency of engagement in physical activity. As previously discussed, a significant relationship occurred between weight loss desire and skipping meals and the intake of unhealthy food. Earlier research conducted by Iannotti and Wang reported similar results, claiming that most US adolescents preferred to decrease their dietary intake, rather than alter their physical activity routines [32]. There is strong evidence to associate successful healthy weight loss strategies with the restriction of energy intake, along with increasing physical exercise activities [33].

Moreover, weight loss desire was significantly associated with sedentary behaviour, particularly in males (37.6% vs. 25.3% in females). Taylor et al. reported that although physical activity is independently related to weight loss, failure to lose weight could occur following long sedentary periods, even when also accompanied by frequent physical activities [34]. However, Kuzik et al. found that frequent physical activity could improve both weight and metabolic health status, while decreasing sedentary time solely results in metabolic health improvement [35]. In addition, young people with sedentary lifestyles are more likely to have a higher BMI than their more active peers, thus prompting weight loss desire [36]. In general, weight management plans should encourage young people to exercise more and reduce their sedentary time.

4.2 BR bullying

To the best of our knowledge, this is the first study analysing the relationship between BR bullying and individual health behaviours among young people wishing to lose weight. This UK study recorded a BR bullying prevalence rate of 24.7%, which is similar to the rates reported in other developed countries [10, 12]. Furthermore, this research found that 37.8% of young people (39.2% in females vs. 35.3% in males) wishing to lose weight had experienced BR bullying. The latter were significantly more likely to perceive themselves as overweight, while no significant association existed with perceived thinness [37]. Lampard et al. reported that young people subjected to BR bullying were more likely to be dissatisfied with their body image, thus wishing to lose weight [12].

Other research also correlated BR bullying with weight control behaviours, which suggests that BR bullying is associated with weight loss desire [10]. Given that young people wishing to lose weight are more likely to exhibit negative health behaviours, BR bullying may reinforce these effects.

This study reported a decrease in the intake of unhealthy foods in young weight loss seekers who were being bullied, but with no significant change occurring in their healthy food consumption patterns, as compared to the non-bullied cohort. However, aside from this finding, exposure to BR bullying was strongly significantly associated with a high incidence of negative health behaviours. Among young people wishing to lose weight, strongly significant relationships occurred between BR bullying and skipping meals, smoking and alcohol consumption. This concurs with other research which reported that BR bullying was associated with skipping meals, dieting and eating disorders [10, 13, 38]. Conversely, a US-based study found no association between BR bullying within a school environment and skipping meals and smoking [12]. This may be due to the small effect size shown in their data analysis. In general, BR bullying increases the incidence of health behaviours negatively associated with weight loss.

Chisuwa-Hayami and Haruki identified the main source of BR bullying as peers who engage in the daily lives of these young people [10]. The authors also highlighted the critical importance of this age cohort developing a positive mental health outlook. Studying with peers in a secondary school setting is an essential part of the socialisation process for young people, therefore, peers can exert a strong influence on the personal body image perceptions these young people hold of themselves [39].

Consequently, it is important for young people to develop an accurate self-perception of their own body image, as BR bullying invariably creates health concerns. For example, non-overweight young people subjected to BR bullying are more likely to adopt unhealthy weight loss methods [10]. In addition, young people typically undergo a period of growth during Years 8 and 10, with some developing larger body sizes than their peers, which could account for one of the reasons for being bullied [1]. These people are at increased risk of perceiving themselves to be “fat” and subsequently engaging in negative weight loss practices, thus adversely impacting upon their health [13]. Moreover, Lampard et al. reported that exposure to BR bullying increases the risk of developing low self-esteem in females and depression in males [12]. This could reduce the likelihood of successful weight loss outcomes being achieved for overweight young people, and that these adverse effects could even continue long into adulthood [40].

In addition, Rubin et al. have suggested that the prevalence of BR bullying may create an unhealthy environment in which to develop for young people, in that it could cause lower selfesteem and depression in those with good mental health or instigate a deterioration in young people who already have symptoms of depression [41, 42]. In summary, the provision of weight management strategies to support the physical and psychological health of young people is required to aid their growth and development.

4.3 Limitation

In the current study, health behaviours have been associated with bullying and weight loss desires but these may be associated with other reasons. If participants were asked “What is the frequency of skipping meals (or smoking, drinking alcohol, physical activity) that you did for weight loss?” and asked to select “never/rarely”, “sometimes”, “often” and “always”, the relationship between health behaviours and weight loss desire and BR bully, respectively, would be more direct. However, because of the secondary nature of the data, it was not possible to determine the wording of the questions used in this research.

5. Conclusion

In this sample, just under half the young people would like to lose weight and a quarter of young people have experienced body-related (BR) bullied. Among young people wishing to lose weight, 37.8% of young people have BR bullying experience. Young people wishing to lose weight are

significantly less likely to have few positive health behaviours, such as decreasing unhealthy food intake, and more negative health behaviours, namely skipping meals, smoking, drinking alcohol and frequent sedentary activity. These negative health behaviours not only cannot help young people lose weight in a healthy manner but also potentially cause weight gain. Importantly, BR bully can exacerbate the engagement of some negative health behaviours among those wanting to lose weight. More action is, therefore, required in secondary schools to combat bullying and engage young people in more healthy relationships with their bodies.

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