

**Young Adolescents' Experiences and Views on Eating and Food
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YOUNG ADOLESCENTS' EXPERIENCES AND VIEWS ON EATING AND FOOD

ABSTRACT

Purpose – Poor eating habits established during adolescence are likely to lead to negative long-term health consequences. The childhood obesity epidemic is a growing public health concern, largely attributed to obesogenic environments. This study explores the multiple factors contributing positively or negatively to young consumers' attitudes towards their food consumption.

Methodology – Forty-two 11- to 13-year-olds (24 males and 18 females) from three secondary schools in Wales participated in five focus group discussions. The process of thematic analysis resulted in several identified themes that influenced the young consumers' eating habits.

Findings – Extrapersonal factors compromised: education, peer pressure, parenting, availability and social media; and, intrapersonal factors included: health consciousness, taste preferences, convenience and price consciousness. Contrary to previous research, the adolescent participants perceived their parents as more influential than their peer group, even during decision-making in the school canteen.

Originality – A novel connection between peer pressure and convenience was discovered. Multiple factors contribute to young consumers' attitudes towards food and their dietary habits.

Practical Implications – These research findings are beneficial for policy-makers working to develop an age-appropriate multi-factorial approach to promote healthful dietary practices amongst young consumers. For instance, increasing easily accessible food-to-go choices that are not only convenient to purchase and consume, yet healthful could improve dietary intake.

Key words: adolescents, food choice, school, peer pressure, healthful eating, convenience, taste preferences, education

Article classification: Research Paper

INTRODUCTION

The World Health Organisation states that overweight and obesity have now reached 'epidemic' proportions (World Health Organisation, 2018). Physically, individuals who are overweight or obese are at a greater risk for several non-communicable diseases (NCDs), elevated cholesterol, hypertension and cardiovascular diseases (CVDs) (World Health Organisation, 2015; Global Burden of Disease Mortality and Causes of Death Collaborators, 2016). Short-term consequences of poor diet are linked to lowered cognitive capabilities, reduced academic achievement and a weakened immunity (Benton, 2012; Myles, 2014; Burrows *et al.*, 2017). Psychological problems may result because adolescents with a higher Body Mass Index (BMI) are more likely to be bullied (Puhl *et al.*, 2017).

Adolescents develop physically and psychologically as they mature from childhood into adulthood (Viner *et al.*, 2015). Meeting the nutritional requirements for the adolescents' growth spurt is important. But excessive consumption of energy-dense foods can contribute to the onset of overweight and obesity (Das *et al.*, 2017). Although it is important to eat healthfully during the period of adolescence for optimal growth and development, research continues to show poor eating habits and inadequate fruit and vegetable consumption that fails to meet governmental recommendations (National Health Service, 2017).

Eating tends to be an inherently social activity and social norms are 'implicit codes of conduct that provide a guide to appropriate action.' These may be directly influential (through cultural rules) or indirectly influential (through situational cues such as portion sizes) (Higgs, 2015: p. 38). Social Cognitive Theory (SCT) is a triadic, reciprocal

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4 behavioural model positing that learning occurs through continuing socialisation and
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6
7 ‘interaction between personal, behavioural, and environmental determinants’ (Bandura,
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9 1977: p. 194). Conforming to peer pressure and social norms ~~and~~ is typically
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11 characteristic of adolescence. Thus, SCT is applicable to studying young consumers’
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13 behaviour because this age group is particularly vulnerable to societal and peer pressure.
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15 The relationship between peer relationships amongst youth influencing problematic
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17 behaviour growth is well established (Gifford-Smith *et al.*, 2005). Large scale research
18
19 demonstrates that adolescent friendship groups display similar eating patterns (Bruening
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21 *et al.*, 2012). Potentially this is because young consumers want to conform to social norms
22
23 by emulating their peer group’s eating behaviours. Research has found that between the
24
25 ages of 10 and 14, adolescents’ resistance to peer pressure is particularly low (Steinberg
26
27 and Monahan, 2007). Social norms theory is a particular issue with regard to food
28
29 consumption as it infers adolescents hold a misrepresentation of their peers’ dietary
30
31 intake. False normative beliefs, which are inconsistent with true behaviours, can result in
32
33 thoughts of unhealthful dietary social comparison and subsequently lead to engaging in
34
35 unhealthful dietary practice (Higgs and Thomas, 2016). A study involving older
36
37 adolescents found that individuals commonly hold misperceptions about their peers’
38
39 dietary behaviour; such as, consuming more unhealthful snacks and fewer fruits and
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41 vegetables (Lally, Bartle and Wardle, 2011).
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49 The Ecological Systems Theory (EST) provides a comprehensive overview of how
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51 individuals’ behaviour is influenced by multiple levels. These four levels are: (i)
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53 microsystem (immediate family and the home environment); (ii) mesosystem (local
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55 neighbourhood and school); (iii) exosystem (community and mass media); and, (iv)
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57 macrosystem (cultural beliefs and values) (Bronfenbrenner, 1994). Davison and Birch
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3
4 applied the EST to demonstrate how the aetiology of children's overweight status may
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6 result from a variety of factors across different levels. They highlight the importance of
7
8 studying weight status from a broad context of angles (Davison and Birch, 2001).

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11
12 Both SCT and EST are appropriate frameworks for investigating young
13
14 consumers' dietary attitudes and behaviour because they emphasise the influence of
15
16 various socio environmental (extrapersonal) and individual (intrapersonal) factors that
17
18 influence young consumers' food consumption. Therefore, as Beales and Kulick (2013)
19
20 state, attributing the increase in overweight and obesity over the last few decades to only
21
22 one factor would be overly simplistic. Rather, a multi-factorial view must be taken.
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26 Another considerable factor is obesogenic environments encouraging energy-dense foods
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28 and sedentary lifestyles becoming normative (Lake and Townshend, 2006). During the
29
30 period of adolescence this becomes an issue because reduced parental and intra-familial
31
32 factors, increased nutritional autonomy, vulnerability to peer pressure and a large choice
33
34 of foods in secondary school canteens all contribute to changing eating habits amongst
35
36 adolescents (Brannen and Storey, 1998; Bassett, Chapman and Beagan, 2008; Fitzgerald
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38 *et al.*, 2010). It is important to study the school canteen because the eating environment
39
40 is significant to adolescents' peer group interactions and the foods that they are exposed
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42 to (Dimpleby and Vincent, 2013).
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47 Notably, the majority of overweight or obese children will continue this trajectory into
48
49 adulthood (Ward *et al.*, 2017). This suggests the importance of research into the multitude
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51 of influential factors during adolescence when independence and autonomy are
52
53 developed. Obtaining an understanding of these will assist in the development of
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55 marketing and policy making to stimulate behavioural change promoting healthful
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57 decision-making around food for this age group. Although previous research has
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4 investigated factors influencing adolescents' attitudes and consumption of foods, the
5
6 research landscape is ever changing and remains highly topical because technology
7
8 develops, governments introduce new regulations and the curriculum changes. Whilst
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10 qualitative studies exploring this subject area have been carried out in parts of the UK, no
11
12 similar study with young consumers has been conducted in Wales (McKinley, Lewis,
13
14 Robson, Wallace, Morrissey, Moran, *et al.*, 2005; Warren *et al.*, 2008; Fitzgerald *et al.*,
15
16 2010). The current study contributes to existing literature by exploring young
17
18 adolescents' (aged 11- to 13-years-old) own perspectives of the extrapersonal and
19
20 intrapersonal factors determining their food choice and attitudes towards foods.
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29 **METHODS**

30 *Procedure*

31
32 A qualitative approach was taken to facilitate the exploration of adolescents' attitudes,
33
34 behaviours, routines, food consumption and the factors that influence these (Denscombe,
35
36 2017). Focus groups were chosen because they are a well-established technique for
37
38 researching eating habits (Jenkins and Harrison, 1990). Discussions allow for in-depth
39
40 data collection from a multiplicity of views whilst negating the exclusion of participants
41
42 with poor literacy skills (Silverman, 2010; Krueger and Casey, 2014). The main
43
44 disadvantage of qualitative research is subjective interpretations. To counteract this,
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46 reflexivity and an inner awareness of reactions helped bring to light subjective feelings
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48 and thoughts, making the qualitative research more rigorous (Finlay and Gough, 2003).
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56 A semi-structured questioning schedule was developed following a review of the
57
58 literature to stimulate discussion and ensure comparability between the transcripts whilst
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4 enabling the researcher to engage with any unanticipated topics (Patton, 2015) (see
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6 Appendix A). A nonthreatening ‘warm up’ activity asking participants to take turns
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8 naming their favourite vegetable encouraged all the participants to participate. This
9
10 helped to build rapport with the focus group participants (Christensen, 2004).
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14 Access to adolescent participants was obtained from three head teachers at secondary
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16 schools in South Wales, who acted as gatekeepers. All of the schools operated a ‘closed-
17
18 gate policy,’ banning adolescents from leaving the school site to purchase food from
19
20 external vendors. Participating schools had Free School Meal (FSM) rates below the most
21
22 recent 17.4% national average in Wales (The Children's Society, 2018). FSM eligibility
23
24 is commonly used to indicate socio-economic disadvantage. With FSM eligibility of
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26 3.5%, 11.6% and 5.6%, the three schools in this study have student populations which are
27
28 classified as middle-class (Gorard, 2012; Ilie, Sutherland and Vignoles, 2017). The
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30 identified schools were generalisable to the wider sample of middle-class adolescents.
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33 Students aged 11- to 13-years-old were sampled. The funding body requested a middle-
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35 class sample as this is their current target market demographic.
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40 Ethics approval was granted via the school-level ethics committee. Staff recruited seven
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42 to twelve adolescents to take part in each of the five mixed gender and mixed year group
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44 discussions. Selection of students with an inherent interest in the topic was discouraged
45
46 as this would be a biased sample. Two information sheets were developed detailing the
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48 focus group study and ethical protocol. One information sheet was developed for
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50 parents/caregivers and another sheet using age-appropriate language and terminology for
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52 the adolescent participants detailing the focus group study and ethical protocol. The
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54 adolescents were under the age of legal consent, so they provided assent alongside their
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4 parent/caregivers informed consent (Phelan and Kinsella, 2013). School-headed
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6 information packs and compulsory forms were sent home with students.
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9 Focus groups were convened on the school premises and students were permitted to miss
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11 their lessons to attend. A member of school staff was present for legal reasons. Prior to
12
13 beginning the discussions, participants were reminded that their participation was
14
15 voluntary and they could opt out at any time without consequence. The confidentiality of
16
17 audio recordings was outlined and adolescents were reassured that their answers would
18
19 not be disclosed to teachers or parents. To minimise lesson disruption and maintain
20
21 adolescents' enthusiastic engagement, each focus group discussion lasted from 25 to 35
22
23 minutes. The discussions ended once all questions were addressed and participants had
24
25 nothing further to say. Five focus groups composed of young consumers aged 11- to 13-
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27 years old. 24 males and 18 females partook in the study.
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31 32 33 *Data Analysis*

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35 Focus group sessions were facilitated, audio recorded and transcribed verbatim
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37 electronically by the lead author within 24 hours of data collection. All resultant
38
39 transcripts were printed and reread several times for familiarisation. This initiated the
40
41 analysis process and a coding framework. An open coding, abductive approach was
42
43 applied to the thematic analysis because there were preconceived ideas based upon
44
45 existing theoretical knowledge rather than categorising wholly based on subjective
46
47 inferences (Braun and Clarke, 2013; Miles, Huberman and Saldana, 2020). Ensuing
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49 themes were discussed amongst the study researchers to reach consensus and to ensure
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51 all pertinent data was included (Maxwell, 2013). Codes were thematically organised into
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53 categories relating to EST levels. Hand written commentary was
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4 completed prior to further coding and categorisation using the QSR NVivo10
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7 (Copyright© QSR International Pty Ltd) data management software. The software aided
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9 retrieval of coded chunks of transcripts and data extracts were thematically analysed to
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11 elucidate the key themes (Bazeley and Jackson, 2013).
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17 **RESULTS**

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19 Thematic analysis revealed nine themes influencing young adolescents' decision-making
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21 in relation to food. These can be segregated into two categories. First, extrapersonal
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23 factors: education, peer pressure, parenting, availability and social media. Secondly,
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25 intrapersonal factors: health consciousness, taste preferences, convenience and price
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27 consciousness.
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30 *Extrapersonal Factors That Drive Food Choice*

31 *Education*

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38 Participants exhibited a good level of nutritional understanding stemming from their Food
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40 Technology lessons at school and were occasionally able to practice cookery skills. Most
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42 were keen to have more lessons: "I reckon we should have more of them though, because
43
44 not everybody knows about all the different food types." Contrariwise, others objected:
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46 "I think that at our age we know what is healthy. But it is our choice whether we listen to
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48 it. And we don't really need to listen to it..." There was a clear dichotomisation of foods
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50 into either 'good' or 'bad' categories. Young consumers associated 'healthy' with
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52 consumption of 'good' foods such fruit and vegetables. Vice versa, 'bad' food and drink
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54 consumption such as sweetened beverages were recognised as unhealthful dietary
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59 components. Splitting foods in this polarised way could prove a barrier to healthful eating
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4 because adolescents associated certain foods with being 'healthy' rather than the entirety
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6 of dietary and lifestyle behaviours. Some 'healthy' lifestyle factors were mentioned:
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8 "balance," "wellbeing," "doing physical activity" and "energy." A couple of participants
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10 emphasised the need to be healthy to avoid becoming "fat" and long-term health
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12 conditions such as Type II Diabetes.
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15 16 *Peer Pressure*

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18 Colloquial language was used by the researcher when discussing with participants to help
19
20 them feel more at ease (Kim, 2012). Nonetheless, participants were unwilling to reveal
21
22 that their peers influenced them and that SCT contributed to their decision making
23
24 around food. Individuality was evident amongst participants, who claimed to not copy
25
26 one another "because it is your own decision, you can make your decision to choose
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28 what you eat, [it's] not everyone else's [decision]."
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32 In addition to independent decision-making, there was the opinion that
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34 peers did not care, let alone comment, elicited endorsement from the rest of the
35
36 participants. Further questioning possibly indicated peer pressure and feelings of
37
38 embarrassment to eating healthfully, but participants only provided indirect responses:
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40 "if you can't beat them, join them." Conforming to peer group norms was frowned upon,
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42 particularly amongst male participants, as one stated: "I don't think anybody really cares
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44 about what others are eating." Nevertheless, the absence of peer commentary could
45
46 become problematic if peers felt unable to "point it out" or "say anything" that their
47
48 friends' continued to eat unhealthfully.
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53 A novel finding was the relationship between peer pressure and convenience. Participants
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55 explained how they would opt for the same or similar options to their peers so they could
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4 queue up together, and more importantly, if peers finished eating first then “they can just
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6 leave.” Peers eating “fast foods” “will be out before you because they can just quickly eat
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8 it and go.” Fear of being left eating alone, but not wanting to “waste” their food, meant
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10 adolescents would eat similarly to their friends. For example, “if you have got a big meal
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12 that is healthy and they have got a small meal that isn’t very healthy, they will probably
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14 get out first.” One explained the dilemma, “it is not the fact that you don’t want to fit in,
15
16 it is more that you want to go out with them and not be left in the canteen.”
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19 20 21 *Parenting*

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23 Parenting sits within the microsystem level of the EST and was deemed vitally important.
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25 Congruence across all focus group discussions revealed that parenting significantly
26
27 influenced adolescents’ decision-making around food. Foods consumed in their parents’
28
29 presence were healthful and parents encouraged healthful dietary practices in their
30
31 absence. Packed lunches enabled parents to control what exactly adolescents ate. Regular
32
33 family mealtimes were usually inclusive of vegetables but most adolescents were able to
34
35 negotiate which vegetables they ate rather than the parents enforcing consumption of
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37 disliked vegetables. Some parents used an after dinner dessert as a reward for eating
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39 vegetables. Parents overtly controlled food availability in some adolescents’ homes, as
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41 described by one female adolescent: “We don’t have anything unhealthy in the
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43 cupboards.”
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49 Moreover, covert snacking control was evident: “I have to ask before taking anything.”
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51 Participants positively perceived parental modelling; mentioning that observing their
52
53 parents eating healthful foods, such as vegetables, increased the likelihood of themselves
54
55 consuming them. Early introduction and familiarisation with a wide variety of foods was
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4 cited as important: “so that you can learn to like them more.” Yet, coercion and “forcing”
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6
7 vegetable consumption may “backfire,” making individuals dislike those foods in their
8
9 later life. Although diminishing parental control was widely reported as adolescents
10
11 become more autonomous, many focus group participants felt obligated to eat healthfully
12
13 in the school canteen because they did not want to make their parents “worried” or “ruin”
14
15 the healthful eating habits established at home. Autonomously eating healthfully
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17 indicated that a lack of parental presence was not a substantial barrier to eating
18
19 healthfully.
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22 23 *Availability*

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26 The availability of healthful foods was not perceived as a barrier at school, because: “there
27
28 is always a healthy option, it is never impossible.” Despite these healthful options,
29
30 participants described the vegetables as “nasty” and explained that fruit bowls lacked
31
32 presence. School canteen fruit lacked aesthetic appeal and were described as “old and
33
34 mouldy” as well as “about to go off.” In comparison, fruit bowls at home, inspired
35
36 unprompted fruit consumption. Participants advocated for healthful foods to look more
37
38 aesthetically appealing to encourage selection and subsequent consumption. Although
39
40 healthful foods were readily available at school, the high availability of chocolate
41
42 brownies, cookies and baked sweet foods adversely affected decision-making. A couple
43
44 of participants suggested that the school should stop offering these tempting foods,
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46 declaring that they would eat better if the only option was healthful foods: “that looks
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48 nice, let me have that instead of what I was going to have which was healthy.” Lunchtime
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50 food availability was an issue because long queues and limited food meant students
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52 occasionally missed their desired options.
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Social Media

The majority of participants supposed that the exosystem level of social media did not influence their attitudes or food consumption as much as older adults believe.

Scrolling through social media apps such as Instagram had the potential to influence food cravings in either an unhealthful way or healthful way dependent on whom individuals followed. The positive influence of social media was mentioned, particularly with the rise of healthful eating and other trends such as plant-based diets. Young consumers rarely saw healthful foods advertised and found McDonald's and confectionery goods advertising persuasive for instilling desire. Body image concerns were evident, as participants believed that they needed to prepare their bodies for the summer when they would wear clothing that was more revealing. However, discernment and being "careful" were deemed important regarding social media usage because the portrayal of unattainable "perfect bodies" could lead individuals to restrict their food intake to control their weight. Consensually, participants believed more advertising encouraging healthful eating would be positive.

Intrapersonal Factors That Drive Food Choice

Health Consciousness

An unanticipated degree of health consciousness revealed that many were taking preemptive actions to ensure they remained healthy, with one stating, "You should like eat the perfect amounts of everything because too much of one thing is always bad." Participants understood that regular meals were conducive to good health and those who skipped breakfast were quick to admit that doing so was not healthful. Participants

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4 strongly opposed takeaways and fast foods, and were critical of individuals whom
5
6 regularly consumed “junk” foods. Scepticism of healthful foods marketing health claims
7
8 was evident. For instance, smoothies contained “loads of sugars” and fruit juices were
9
10 considered full of “bad sugars.” Both male and female participants ascribed their health
11
12 consciousness to wanting to keep fit, lose weight and avoiding feelings of guilt if they
13
14 succumbed to food cravings. Self-control was cited, with several balancing unhealthful
15
16 foods and healthful foods, limiting sugar intake, and only drinking water and milk. A few
17
18 described how they did not crave certain foods in the canteen such as the puddings,
19
20 paninis or the pizza because they had never allowed themselves to eat them. Thus, having
21
22 nutritional autonomy at school did not result in unhealthful decision-making concerning
23
24 foods. Interestingly, despite the majority claiming they failed to consume the
25
26 governmental recommendation of five portions of fruit and vegetables daily, only a few
27
28 recognised room for improvement. This pertained to a gap between nutritional knowledge
29
30 and their behaviour.
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35 36 37 *Taste Preferences*

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40 Notably, taste preferences were one of the most significant intrapersonal factors
41
42 influencing food consumption. Favoured vegetables were carrots, cucumber and broccoli
43
44 because they had an acceptable “flavour,” “sweetness,” were “juicy” and versatile: “You
45
46 can eat carrots raw or cooked. They can pretty much go with any meal.” Frequently
47
48 mentioned disliked vegetables were peas, sprouts and cauliflower, which were negatively
49
50 attributed as “slimy,” tasting “bitter” or lacking any taste at all. The taste of vegetables
51
52 impeded consumption, with the majority preferring fruit and rarely consuming vegetables
53
54 in a snacking context out of “choice.” One declared they would only resort to eating
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56 vegetables if “stranded on a desert island.” Adolescents confessed preferring the taste of
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4 unhealthful foods and would opt for these rather than healthful choices. For example, “If
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7 I had to pick between like a chocolate or something like a vegetable then I would pick
8
9 chocolate.” The majority of participants craved unhealthful foods, perceiving them to
10
11 taste better than healthful foods despite being “bad” for you. Adolescents identified
12
13 bringing a packed lunch into school as a way to ensure that they could eat exactly what
14
15 they wanted to, with a few alternating between packed lunches and school lunches
16
17 depending on the school canteen menu. Although there was a vast choice in the school
18
19 canteen menu, the majority opted for the same familiar options almost on a daily basis.
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22 23 *Convenience*

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26 Time constraints were identified as a barrier at the mesosystem level of the EST to eating
27
28 healthfully throughout adolescents’ daily routines. Breakfast was skipped by individuals
29
30 not feeling hungry upon waking and by others wanting to sleep for longer. Participants
31
32 reported that long queues dissuaded them from purchasing food in the school canteen: “If
33
34 I fancy something to eat, and the queue is really long then I won’t go,” because queuing
35
36 all lunchtime was “pointless” in case “by the time you get there, the food will all be gone.”
37
38 Some avoided queueing by going to the school library or spending time outside before
39
40 their lunch, but this meant that the more attractive options had run out and individuals
41
42 risked missing “the stuff you want” and there being “nothing” appealing left. Others
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44 favoured packed lunches from a convenience point of view. Most shunned a hot main
45
46 meal at lunchtime, but whether this was due convenience or taste preferences was unclear:
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49 “because it is quick” or, “it is both.” 25-minute lunchtimes at one school meant slower
50
51 students lacked sufficient time to eat, and even had to throw away their food when the
52
53 afternoon lessons bell rung. Aside from this, extracurricular activities and good weather
54
55 resulted in students selecting convenient options when it was “unthinkable to eat hot
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4 food” and they wanted to minimise the time “wasted” eating indoors. Many adolescents
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6
7 considered the convenient options available in the school canteen as predominantly
8
9 unhealthful. Although fruit was considered convenient, one male participant stated they
10
11 did not “have the time” to eat apples.

12 13 *Price Consciousness*

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17 Several mentioned that the cost of healthful foods was prohibitively expensive, possibly
18
19 resulting from socialisation and SCT. As lunchtime menu items were pricier, it emerged
20
21 that some purchased food at break time instead. Students could purchase “slices and
22
23 slices” of toast priced at £0.16 which was filling and low risk. Choosing an unfamiliar
24
25 healthful dish at lunchtime would be much more costly and there was a degree of
26
27 uncertainty regarding the taste or fillingness. Several participants disclosed they wanted
28
29 to avoid spending too much money on the “expensive” food available in the school
30
31 canteen because their parents would be disappointed and “get mad at you if you spend
32
33 too much money.” Budgeting skills were required as many possessed limited allowances,
34
35 and would prepare a packed lunch if they lacked sufficient funds to purchase food at
36
37 school. The researcher asked, ‘What do you think would make it easier for young people
38
39 to eat more vegetables and healthy foods?’ Adolescents suggested increasing the price of
40
41 unhealthful foods would discourage price conscious students from eating unhealthily.
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43 Additionally, reducing the price of healthful foods to ensure it is not “really expensive
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45 because nobody would buy a piece of fruit if it is [priced the same] as a brownie.”
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50 51 52 53 54 55 **DISCUSSION**

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4 This study sought to explore the factors influencing 11- to 13-year-old Welsh adolescents'
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6 attitudes, routines and behaviours related to food consumption. Consistent with previous
7
8 studies, numerous extrapersonal and intrapersonal factors were intermingled to influence
9
10 adolescents' decision-making around food (Neumark-Sztainer *et al.*, 1999; Stevenson *et*
11
12 *al.*, 2007; McHugh *et al.*, 2019). The findings support theories of socialisation, social
13
14 norms, SCT and EST, showing that factors can have an indirect or direct influence on
15
16 adolescents' food consumption. Participants exhibited a good level of nutritional literacy,
17
18 understanding and awareness that healthful eating would lead to short-term and long-term
19
20 health improvements. This supports previous results showing that knowledge alone is
21
22 insufficient in prompting healthful eating (Stok *et al.*, 2012; Vaitkeviciute, Ball and
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24 Harris, 2015).
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30 As expected, the majority of participants failed to consume the recommended quantity of
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32 fruit and vegetables on a daily basis (Welsh Government, 2016; National Health Service,
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34 2017).
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38 The participants gave both positive and negative examples of social
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40 media, however Smit *et al.*'s (2020) longitudinal study found that watching YouTube
41
42 vloggers consuming unhealthful foods and drinks was linked to an increased consumption
43
44 of these foods amongst young consumers. Conversely, use of Instagram has been
45
46 correlated with increased orthorexic symptoms (Turner and Lefevre, 2017). Male and
47
48 female participants in the current study ubiquitously categorised foods as either 'good' or
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50 'bad' and exhibited restrictive regulatory tendencies. There is concern that the innocent
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52 desire to eat healthfully could potentially lead to a disordered relationship with food and
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4 orthorexia nervosa (Bratman, 2017). Overall, the ambivalence towards eating healthfully
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7 could be approached by policy-makers seeking to develop educational programmes, with
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9 the aim of engaging adolescents in the importance of healthful dietary practices.

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11
12 The current study highlighted the importance of the school food environment at the
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14 mesosystem level of EST. Relatively simple changes could be made to favour healthful
15
16 dietary behaviours. Firstly, participants complained that fruit bowls in the canteen lacked
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18 visibility and were aesthetically unattractive. Providing fruit close to the checkouts has
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20 proved effective at increasing purchase and consumption of fruit during an intervention
21
22 study in a secondary school canteen (Ensaif *et al.*, 2015). Secondly, many adolescents
23
24 avoided hot main meals inclusive of vegetables and chose food-to-go. Perhaps creating
25
26 convenient composite dishes containing vegetables rather than serving vegetables
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28 separately would assist in increasing vegetable consumption (Stevens *et al.*, 2013).
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31 Thirdly, although shortening school lunchtimes effectively reduces bad behaviour, it can
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33 lead students to feeling rushed and can be detrimental to healthful eating if students
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35 repeatedly purchase the same familiar options (Sharma *et al.*, 2017; Baines and
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37 Blatchford, 2019).
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42 Contrary to previous studies, asserting the importance of socialisation with peers and SCT
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44 from peer-to-peer interactions, parenting was considered a more significant influencing
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46 factor-than peer pressure.
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49 Specifically, early childhood was reputed as a crucial socialisation period
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51 for exposure to healthful foods, and is widely considered
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53 a robust way to establish healthful taste preferences (Anzman, Rollins and Birch, 2010;
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55 Scaglioni *et al.*, 2018). Aside from the SCT concepts of taste exposure and parental
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57 modelling, several participants in the current study claimed to eat what their parents
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4 would approve of, even in their parents' absence. This concurred with the theory of
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7 socialisation and prior research has established that having at least one health-
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9 orientated food rule at home resulted in adolescents opting for healthier snacks when
10
11 autonomously deciding what to eat (Wang and Fielding-Singh, 2018). In contrast, other
12
13 research has found that individuals are more likely to opt for unhealthful foods in their
14
15 parents' absence (Eck *et al.*, 2019). Encouraging parents to offer their adolescents'
16
17 guidance about what to purchase at school could prove effective from a SCT perspective,
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19 as participants in this age group remained heavily influenced by their parents.
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23 On the other hand, participants were adamant that their peers did not pressurise them to
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25 purchase and consume certain products. Individuals were keen to state they independently
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27 chose what to eat and their peers held no judgement.
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31 However, these findings are inconsistent with the extensive literature stipulating
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33 peer pressure substantially influences adolescents' decision-making around food (Bech-
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35 Larsen, Jensen and Pedersen, 2010; Pedersen, Grønhøj and Thøgersen, 2015
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39 For example, a recent study found that only 4% of the adolescent
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41 participants would purchase a healthful meals in the presence of their peers (McKeown
42
43 and Nelson, 2018). Thus, the finding that individuality is of greater significance than the
44
45 effects of peer-to-peer socialisation amongst the sampled adolescents is novel. Thus,
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47 policy-makers may choose to focus more so on individualism rather the concept of
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49 adolescents all seeking to fit in with perceived social norms.
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53 However, adolescents may use commercially branded food products to
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55 conform with others and promote a desirable self-image (Stead *et al.*, 2011). Conversely,
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57 research has found that taste preferences influence snack selection more than branding
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4 (Hemar-Nicolas *et al.*, 2015). This literature implies that food products are used to create
5
6 self-image, but the branding is not wholly used to in a conforming sense whereby
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8 adolescents' will select certain brands regardless of taste preferences. As a consequence,
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10 the branding of healthful products and promotions should not be the core focus for policy-
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12 makers and marketers.
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16 Besides this, the current study identified a newfound relationship between peer pressures
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18 influencing individuals' selection of convenient options. Whilst peer pressure is at the
19
20 mesosystem level and convenience is at the microsystem level in terms of the EST, this
21
22 highlights the importance of taking a multi-factorial approach as factors at different levels
23
24 can interrelate. Choosing the same foods as their peer group allowed adolescents to finish
25
26 eating at the same time and avoided them being left alone to complete their meal. Previous
27
28 interview research with school-aged children revealed that swapping packed lunches for
29
30 school dinners and vice visa was common as it enabled students to sit amongst peer
31
32 groups in schools segregating those eating different meals (Ludvigsen and Scott, 2009).
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34 Notably, choosing the same or similar foods based on convenience related to
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36 peer pressure rather than feeling obliged to try to fit in with their peer group was a novel
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38 finding.
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44 However, social norms theory is evident in the fact that there is a norm of eating lunch
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46 quickly, meaning that adolescents' are influenced by their peers despite their reluctance
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48 to admit so.
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51 Aside from the novel connection between peers and convenience, convenience
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53 constituted a significant intrapersonal factor driving adolescents' decision-making. In
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55 particular, long queues deterred individuals because short lunch time constraints
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57 resulted in adolescents' being keen to purchase and consume their break time
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4 snack or lunch as quickly as possible to allow for more socialising time. These insights
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6
7 are consistent with previous research involving adolescents of a similar age (McKinley *et*
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9 *al.*, 2005).

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12 To counteract the inconvenience of queueing, several mentioned that they brought a
13
14 packed lunch into the canteen (Fossgard *et al.*, 2019). Although

15
16 some believed packed lunches could be more healthful as they benefited from parental
17
18 control, a study in Wales found that parents and carers appeared to implement minimal
19
20 restraint over packed lunch content (Warren *et al.*, 2008). In addition, research shows that
21
22 packed lunches are significantly less likely to contain fruit and vegetables than school
23
24 lunches (Taylor *et al.*, 2019). Therefore, school policy ought to be positioned towards
25
26 encouraging school meal take-up rather than packed lunch consumption. Of note, the
27
28 preference for packed lunches and convenient food-to-go canteen options is impossible
29
30 to attribute entirely to convenience because taste preferences play a role.

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33 Therefore, it is difficult to clarify or attribute one factor because both taste and preferences
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35 amongst peers are intrinsically rewarding. This highlights the complexity of decision-making
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37 around food being influenced by a multitude of factors.

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40 As aforementioned, the level of health consciousness and the perceived lack of peer
41
42 pressure were unanticipated (Bassett, Chapman and Beagan, 2008). A further novel
43
44 finding was the unmistakable price consciousness at a personal level, possibly derived
45
46 from socialisation with individuals who were conscious of their spending. Adolescents
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48 were risk averse and reluctant to spend money on food that was not filling and did not
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50 taste preferable. Previous research indicates that adolescents consider healthful foods less
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4 filling (McKinley *et al.*, 2005; Contento *et al.*, 2006). Feeling of guilt for spending their
5
6 parents' money was prevalent, yet intriguingly the literature largely appears to exclude
7
8 price consciousness in this research area. One relevant study concerning adolescents'
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10 (aged 14- to 17-years-old) food choice found that price and convenience were strongly
11
12 associated with subsequent motivation for certain food choices (Share and Stewart-Knox,
13
14 2012). A study involving students in school canteens found that lowering the price of
15
16 fruits, vegetables and healthful foods increases sales and subsequent consumption
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18 (French *et al.*, 1997).
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22 However, increasing the price of unhealthful options such as cookies and brownies
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24 alongside decreasing the prices of fresh fruit is not recommended as it is expected that
25
26 adolescents will simply start to bring in their own packed lunches and snacks.
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28 Research with school canteen catering staff has found that the product offering
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30 must be attractive for pupils as otherwise the canteen is not financially viable
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32 (Moore *et al.*, 2010).
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40 In summary, individuals in this age group are relishing their newfound autonomy and
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42 striving to individuate themselves from others. Increasing the availability of foods that
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44 are easily accessible, yet conveniently positioned in a food-to-go format whilst meeting
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46 adolescents' taste preferences and are cost effectively priced, could help to improve
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48 adolescents' dietary choices. The novel finding that peers minimally influenced eating
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50 habits may be due to either a lack of awareness or an inherent reluctance to express that
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52 they felt peer pressure in a focus group dynamic (Bech-Larsen and Kazbare, 2014).
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54 Another limitation is the cross-sectional data collection, which means that causality
55
56 cannot be inferred from the results. Moreover, findings from predominantly middle-class
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4 participants cannot be extrapolated to the wider population of all young adolescents of
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7 varying socioeconomic backgrounds. Yet, it is realistic to suggest the findings are
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9 representative of other similar individuals because the focus group method provided
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11 saturation of results supporting previous research.

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14 A key strength of the current study was the insight gained from adolescents themselves
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16 and their understanding of the factors they perceived to influence their dietary habits. A
17
18 longitudinal study demonstrated that the foods regularly eaten during adolescence were
19
20 predictive of food intake during young adulthood. This shows the importance of nurturing
21
22 healthful dietary habits during adolescence (Larson *et al.*, 2012). Multifaceted
23
24 governmental national and local policies and interventions can substantially aid in
25
26 improving dietary habits. In order to develop interventions appropriate to this age group,
27
28 further quantitative and qualitative research would be desirable. In particular, making
29
30 healthful eating normative in the school food environment would have a substantial
31
32 impact on decision-making concerning food, because adolescents consume a considerable
33
34 proportion of their daily energy intake whilst at school.
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12 To conclude, it is recommended that a multi-factorial approach is taken to equip young
13 adolescents to make healthier dietary choices. This paper has discussed the implications
14 of the results and provided ideas as to how policy-makers could implement age-
15 appropriate interventions. These interventions should aim to develop and establish
16 healthful habits to aid in the reduction of obesity and subsequent long-term health
17 implications. The broad range of influencing factors mean that it is impossible to ascribe
18 one factor as more influential above all others.
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28 Further research studying both extrapersonal and intrapersonal factors driving food
29 choice should include adolescents' insight to explore further the complexity of
30 relationships between factors influencing adolescents' attitudes and consumption of
31 foods.
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