White Rose Research Online

eprints@whiterose.ac.uk
https://eprints.whiterose.ac.uk
Universities of Leeds, Sheffield and York

Deposited via The University of Sheffield.

White Rose Research Online URL for this paper:
https://eprints.whiterose.ac.uk/id/eprint/217116/

Version: Published Version

Article:
Nield, L. (2024) “I prefer eating less than eating healthy”: drivers of food choice in a sample of Muslim adolescents. Adolescents, 4 (1). pp. 41-61. ISSN: 2673-7051

https://doi.org/10.3390/adolescents4010004

Reuse
This article is distributed under the terms of the Creative Commons Attribution (CC BY) licence. This licence allows you to distribute, remix, tweak, and build upon the work, even commercially, as long as you credit the authors for the original work. More information and the full terms of the licence here: https://creativecommons.org/licenses/

Takedown
If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

UNIVERSITY OF LEEDS
University of Sheffield
UNIVERSITY of York

adolescents

MDPI

Article

"I Prefer Eating Less Than Eating Healthy": Drivers of Food Choice in a Sample of Muslim Adolescents

Lucie Nield

Advanced Wellbeing Research Centre, Sheffield Hallam University, Sheffield S9 3TU, UK; l.nield@shu.ac.uk

Abstract: Adolescence is a time of significant change which is experienced differently across sociocultural contexts. Understanding drivers of food practice in adolescence is vital as these impact future health outcomes and can drive health inequality. This study investigates drivers of food choice in predominantly British–Asian, Muslim adolescents living in a deprived urban area of England. It identifies dominant drivers of food choice and their impact on health and wellbeing, and explores how Muslim adolescents from a low socioeconomic, British–Asian group understand and action autonomy in their food practices. PhotoVoice, a focussed ethnographical methodology where participants reflect on lived experience, was used to address the study aim. Participants (n = 21) were secondary school pupils aged 14–15 years, recruited from a school situated in an area of deprivation. Four overarching themes were developed from the qualitative data framework analysis: (1) food preference and other determinants of food choice; (2) concept, understanding and importance of health; (3) developing autonomy, skills, and independence; and (4) role of community, friends, and family in food practices. The adolescents were developing autonomy in relation to their food practices, whilst navigating a complex web of factors which were, in part, determined by their social class location and demographics. Participants understood the constituents of healthy eating. However, there was a perceived "effort" of being healthy, including additional time for preparing healthier food and sacrificing taste preferences. Parents, friends, and schools highly influence food choices, with adolescents preferring a broad palate of takeaway and convenience foods and would prefer to eat less of these "unhealthy" options than eat healthily.

Keywords: Adolescence; food practices; autonomy; sociocultural context; Muslim; British Asian; food choice

check for updates

Citation: Nield, L. "I Prefer Eating Less Than Eating Healthy": Drivers of Food Choice in a Sample of Muslim Adolescents. *Adolescents* **2024**, *4*, 41–61. https://doi.org/10.3390/adolescents4010004

Received: 19 October 2023
Revised: 21 December 2023
Accepted: 23 December 2023
Published: 4 January 2024

Copyright: © 2024 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Adolescence is the phase between childhood and adulthood, from 10 to 19 years of age [1], which is marked by rapid physical, sexual, mental, and social development [2,3]. The nutritional needs of adolescents are significant due to the growth of all physiological systems, with adolescents typically gaining 20% of their final adult height and 50% of adult weight from ages 10 to 19, and an increase in bone mass of up to 40% [4]. Therefore, it has been recognised that adolescents have specific requirements, risks, and opportunities related to their dietary intake and food choice and that they are a unique population group who cannot be defined as older children or younger adults [2]. However, there is a lack of research and policy development which addresses nutrition during adolescence specifically. The Lancet Series on adolescent nutrition highlighted a paucity of intervention and policy research focussed on adolescent growth and nutrition [2,5,6]. The series recommended that future research should consider the relationship between adolescence and nutrition for the prevention of disease into adulthood [6,7], which also addresses the multiple drivers of adolescent diets. Some research has started to address this knowledge gap by studying the food environment and ecological context in adolescents [8,9]. Despite the knowledge that today's generation of adolescents is exposed to dramatic change in food environments,

whereby diseases of nutritional inequality (e.g., obesity, malnutrition) persist, adolescent-responsive nutritional policies and practices remain underdeveloped [6].

1.1. Health and Weight Management

Adolescence is critical for the development of healthy eating behaviours, yet previous research has reported that adolescents are not meeting dietary guidelines, consuming higher intakes of high-fat, salt, and sugar (HFSS) foods such as fast foods and confectionary and lower intakes of fruits, vegetables, and wholegrains [10,11]. Adolescents report diverse barriers to, and enablers of, healthy nutrition, physical and sedentary activities, and sleep habits which have been summarised into three themes including degree of controllability, the impact of mental health, and social pressures related to weight management [12].

The worldwide epidemic of overweight and obesity represents a major challenge to government and public health policy makers [13]. The risk of obesity disproportionately affects the poorest people of Britain and despite a rise in childhood overweight and obesity, current paediatric weight management programmes are recognised to be largely ineffective [14]. In addition, adolescents often fall into a poorly managed "care gap" when they transfer from child to adult health care services as it fails to meet the needs of young people and their families. This suggests that their voices are not being heard and appropriate action is not being taken [15].

Overweight and obesity are outcomes of complex, lived realities that reflect a range of sociocultural dimensions shaping people's capacities to make healthy food practice choices. It has been acknowledged that nutrition and the adolescent transition are closely interrelated due to the multifactorial influence on eating patterns and behaviours [16].

1.2. Food Practices

Food practices defined as "any activity in which food is involved, ranging from food preparation, gifting food, sharing meals, or cleaning up" [17] can be seen as the outcome of the food environment. The food environment is defined as "the collective physical, economic, policy and sociocultural surroundings, opportunities and conditions that influence people's food and beverage choices and nutritional status" [18]. Story et al.'s (2008) ecological framework of food choice extends the concept of food environment to reflect the complexity of interactions between the food environment and individual factors [19]. The drivers of food practices may go beyond material and environmental constraints (lack of money and access to supermarkets for example); other explanations drawn from adaptive behavioural ecology have been proposed [20]. These sociological principles are reflected in the work of Bourdieu who recognises that food practices occur at the intersection of skills, knowledge, identities, values, and competing priorities and are therefore not simply an exercise in willpower [21]. Food decision making, and food processes are complex and are driven by numerous interrelationships such as social class, budget, experience, access to food, preferences, rituals, and routines [22]. Food habits are therefore seen as a symbol and medium for the reproduction of class/socioeconomic status (SES) [21]. Unhealthy eating habits are noticed to run in families, for example, a young child may develop poor eating habits from their parents and then carry them into adulthood [23] whilst cooking and food preparation skills have a positive association with healthier eating habits and attitudes [24].

Food choice is the process through which we decide what food to buy and eat. Factors which influence food choice include availability in the home, parental control, peer behaviour, taste, food preference, self-efficacy, preparation, and cost [2]. An additional layer of complexity is curated by the exposure to social media platforms such as Instagram and TikTok and "influencers" who market HFSS foods. Evidence suggests that this exposure can lead to immediate consumption of such products [25,26]. Understanding the current drivers of food practice in adolescence is crucial as these decisions are pivotal to the long-term health and weight outcomes in adulthood and can be a key driver of health inequality [27].

1.3. Adolescence and Autonomy

Adolescents develop autonomy, social and economic independence, discover their self-identity, acquire the skills needed for adult life [16] and develop responsibility for their decision making, behaviours and actions [28] including that of food and health choices [29]. Health choices are related to autonomy, yet influenced by family, peers, the wider social environment, and society [30,31]. However, the way in which adolescents experience that autonomy is not universal as adolescence is not homogeneous, and will reflect sociocultural context amongst other factors [7,21]. Additionally, people from ethnic minority groups develop their dual identities (i.e., their ethnic and national identities) during adolescence [32]. Adolescents' experiences of acculturation and development of dual identity is associated with adjustment and wellbeing outcomes [33].

It is therefore of interest to understand how adolescents' lived experiences of autonomy varies due to individual and contextual factors, and their perceived sense of control and power over their own food and health choices [34]. This has not yet been explored in UK Muslim adolescents.

This focussed ethnographic research will help to understand how UK Muslim adolescents, at a life stage at which autonomy is emergent, negotiate and accomplish food practice choices, and how this is inflected by sociocultural factors. This research is important as it will help practitioners and policy makers to understand the key drivers of food practice choices in this specific adolescent group which may enable the development of more innovative, inclusive, engaging, and tailored public health messaging, and food system design.

1.4. Research Aims

The aim of this study was to investigate the drivers of food choice in predominantly British–Asian, Muslim adolescents living in deprived areas of an English city. The secondary aims were to identify dominant drivers in food practice choices that enhance or mitigate risks to health and wellbeing for this particular group and to explore how these adolescents understand and action autonomy within their food practices.

2. Methods

The study was developed reflecting the growing consensus that children and adolescents are active social agents and experts in and of their own lives [35] and have a right to participate in research which may affect them [36,37]. The topic of food choice was used to understand how adolescents navigate food practices, develop autonomy and how this may impact on longer term food decision making and health.

2.1. Study Design

A cross-sectional study which employed PhotoVoice was used to address the study aim. The inclusion criteria were participants aged 13–17 who were recruited from a local secondary school which was situated in an area of deprivation in a large city in North-East England. The secondary school is a large mixed-sex, ethnically diverse school with over 46% of students eligible for the income-assessed free school meals programme [38]. Most pupils come from Asian backgrounds, with the remainder coming from a wide range of minority ethnic backgrounds and a few pupils are White British. A much higher-than-average proportion of pupils speak English as an additional language and are eligible for the pupil premium. Participant information sheets were distributed to students and their families via the school and both parental consent and participant assent to the study was sought. Participants were free to withdraw at any stage during the research process. The research project was approved by the Sheffield Hallam University ethics committee (ethics number ER37936285) on 7 February 2022. Following consent, participants were asked to complete a short online demographic questionnaire which captured their gender, age, ethnicity, religion, highest educational attainment of parents, and full postcode which allowed the researchers to identify the Multiple Index of Deprivation centiles for the

research participants. The data capture period for half of the participants coincided with Ramadan (a period of fasting between sunrise and sunset observed in the Muslim faith) and Eid (a large celebration at the end of Ramadan) which provided additional cultural context to the data.

PhotoVoice is a participatory research methodology which uses focussed ethnography to allow people living within their community to record, share, and disseminate information and to become a catalyst for change [39]. Individuals use a camera to take photographs of issues that are important to them based on a specific research topic or idea. It can therefore be a tool which can reach, inform, and organise community members to discuss their concerns and issues and find group solutions. PhotoVoice is an appropriate methodology to address the study aim as images can trigger a deeper reflection on lived experiences and prompt emotional responses which narrative alone cannot [40]. Previous research has suggested that PhotoVoice is a powerful tool to use with adolescents. Adolescents reported feeling empowered and were able to demonstrate critical thinking and self-reflection amongst other skills [41]. In addition, there is a well-established argument that images can act as signifiers of culture which highlight values and expectations of individuals, communities, and society [42]. What individuals choose to photograph, when and how, is shaped by community values as well as how they would like to reflect their lives to others. PhotoVoice can therefore be used as an advocacy tool and to "give voice" to underserved communities aligning well with the process of co-production, where atypical populations are engaged, and more marginal views are sought [43].

The research team was comprised of the lead researcher (LN) and research assistants (PA, AC, HW, DZ, RH, YH) who were involved in the data collection and collation. Participants were invited to a 1-hour briefing session at their school, within which they were trained and guided on the aims of the research and the PhotoVoice methodology (its aims in the project, ethics of photography, and photography skills) by the lead researcher (LN). Participants used their own mobile device or tablet or had the option of being provided with a basic camera if required. They were asked to take photographs of images that represent "anything related to your food practices in your neighbourhood" for a 2-week period. Food practices were broadly defined as "any activity in which food is involved, ranging from food preparation, gifting food, sharing meals, or cleaning up" [17]. Participants were split into two groups and with half the participants taking photographs in May and half in June 2022. The data collection period of the May participants coincided with the end of Ramadan and Eid. The participants were asked to submit 5–10 photographs with a brief description to an online portal by the end of the data collection period. Participants were reminded to take and submit photographs after a 1-week period. The photographs were printed out and labelled by the research team with the participant number and brief description provided by the participant.

Participants were then invited to attend a focus group to share their experiences of food practices and discuss the significance of the photographs they chose to take. The participants were given printed copies of their own photographs and were split into six groups over two sessions (Session 1 consisting of 10 participants, groups A–C (May) and Session 2 consisting of 11 participants, groups D–F (June)) to allow adequate time for discussions and for each participant to have space to tell their story. These focus groups were held in the research centre close to the school.

In the first part of the session, participants were asked to look at their photos in small groups of 2–3 and share their thoughts using the first 4 questions of the SHOWed method to guide the conversation. In the second part of the session, findings were shared with the larger group, and participants were encouraged to look for any common themes amongst their photographs as well as any differences. The research team guided the discussions within the focus groups using the SHOWed method—a set of six semi-structured questions which facilitated an open-ended interpretive approach to the research questioning [44]. The questions were the following:

(1) What do you **S**ee happening here?

(2) What is really **H**appening here?
(3) How does this relate to **O**ur lives/health?
(4) **W**hy does this situation, concern, problem, or strength exist?
(5) How could this image **E**ducate the community or policy makers etc.. . .
(6) What can we **D**o about it?

The purpose of the SHOWed questions is to identify the problem or asset being examined through PhotoVoice, critically discuss the roots of the situation, and develop strategies for change [45].

All discussions were voice recorded using Zoom or voice note software on multiple laptops and iPads (1 per group) to capture small group and larger group discussions. The voice recorded files were downloaded and saved securely on a university research drive.

After session 1, the researchers collated the learning, synthesised the data and prepared a presentation to outline the main findings. This was presented back to the participants as a way of "sense-checking" the researchers' interpretation of the data to determine whether the information had been understood appropriately from the series of focus groups and whether the participants agreed with the interpretation and findings and felt they were representative of their views and the discussions they had been involved in. This session took place at their school. During the session, questions 5–6 of the SHOWed criteria were addressed. Participants were encouraged to give feedback on the learning to date and suggest action which can be taken to policy makers and advocates for the adolescent participants. Participants were provided with a GBP 20 gift voucher as an acknowledgement of their time.

2.2. Data Synthesis and Analysis

The researcher and research assistants (consisting of master's students who were trained and closely supervised by the lead author) uploaded the voice files which were transcribed by Otter.ai software [46]. The researchers immersed themselves in the data by listening to the audio interviews and reading and editing the transcripts produced by Otter.ai. The qualitative framework analysis approach was used for data analysis [47]. This approach aims to systematically manage qualitative data in an applied research context, provide transparent results and conclusions, and identify appropriate outcomes related to the original data.

The data are reported using a Standards for Reporting Qualitative Research (SRQR) using the consolidated criteria for reporting qualitative studies (COREQ), based on a 32-item checklist [48].

Qualitative analysis was undertaken using framework analysis [49] which created and applied an analytical framework. The five steps in framework analysis were followed: (a) data familiarisation: the researchers read transcripts several times to develop an understanding and interpretation of the participants perceptions; (b) framework identification: each researcher suggested a theme heading for the framework analysis and these were discussed and amended until a consensus was reached; (c) indexing: condensed data from the transcripts; (d) charting: rearranging the data and framework to create order and (e) mapping and interpreting: visually representing all the themes and investigating their interconnectedness [47]. Following Gale et al. (2013), quotes were extracted from the transcripts to populate the framework [47].

Further synthesis of the data led to an adaptation of the ecological model of food choice proposed by Story et al. (2008) [19].

Transparency Declaration

The lead author affirms that this manuscript is an honest, accurate, and transparent account of the study being reported. The reporting of this work is compliant with STROBE [50]. The lead author affirms that no important aspects of the study have been omitted.

2.3. Patient and Public Involvement

Public involvement was crucial to this project and underpinned the study design. Prior to the recruitment of participants, a group of four 14–15-year-old participants from the same school met with the researchers. The research study aims and methodology were discussed, and all paperwork and questions were shared. The researchers asked questions to ensure that the research felt appropriate and asked for feedback and input from the participants for sense checking of information through to alternative study design ideas. At the briefing session and the two data collection and feedback sessions, participants took an active role in the design, development, and delivery of the study and how and where the results would be disseminated.

3. Results

3.1. Study Population

In total, 28 participants consented to take part in the study. A total of 22 participants provided demographic data and 21 participants participated in the PhotoVoice interviews, with some participants absent on the day of the focus group. The sociodemographic characteristics of the participants who took part are described in Table 1.

Table 1. Participant characteristics and demographic data (n = 21, aged 14–15 years old).

Variable	N (%)
Gender	
Male	3(14%)
Female	18 (86%)
Ethnicity	
Asian or Asian British–Pakistani	6 (28%)
Asian or Asian British–Bangladeshi	3 (14%)
Black or Black British–African	2 (10%)
Arab	2 (10%)
Other Asian/Asian British	1 (5%)
Any other ethnic group (incl. Caucasian)/prefer not to say/unknown	7 (33%)
Religion	
Islam	17 (81%)
Unknown	4 (19%)
Self-reported health status	
Poor	1 (4%)
Average	5 (24%)
Good	5 (24%)
Very good	5 (24%)
Prefer not to say/unknown	5 (24%)
Highest level of parental education	
They did not go to school	1 (4%)
Secondary school/college	3 (12%)
University	1 (4%)
Prefer not to say/unknown/unanswered	16 (80%)
English Indices of Multiple Deprivation (2019) (by postcode data)	
0–10% most deprived	10 (48%)
11–20%	2 (10%)
Prefer not to say/unanswered	9 (42%)

All participants attended the same school and were in Year 10 (aged 14–15 years old). All the participants who reported their full postcode lived in the top 20% most deprived centiles, according to the English Indices of Multiple Deprivation (2019). The majority of participants were Muslim, female, and reported that they were British Asians. Their self-reported health status was very variable ranging from poor to very good. Parental education level was largely unreported by participants.

3.2. Summary of Photographs

In total, 143 photographs were submitted, 105 photographs were uploaded to the online portal by the participants with some participants e-mailing an additional 38 photos. Each participant submitted between 2 and 10 photographs with a brief description such as "Cheat day!", "Margarita Pizza", and "A healthy smoothie".

Most photographs that were discussed by the participants were of HFSS food items which the participants justified as appearing more exciting, "*Healthy foods are boring, we don't want to take pictures of them*". Therefore, regular food practices were elicited throughout the focus groups to understand the "boring" foods which were being consumed frequently.

Some example photographs are shown below in Figure 1.

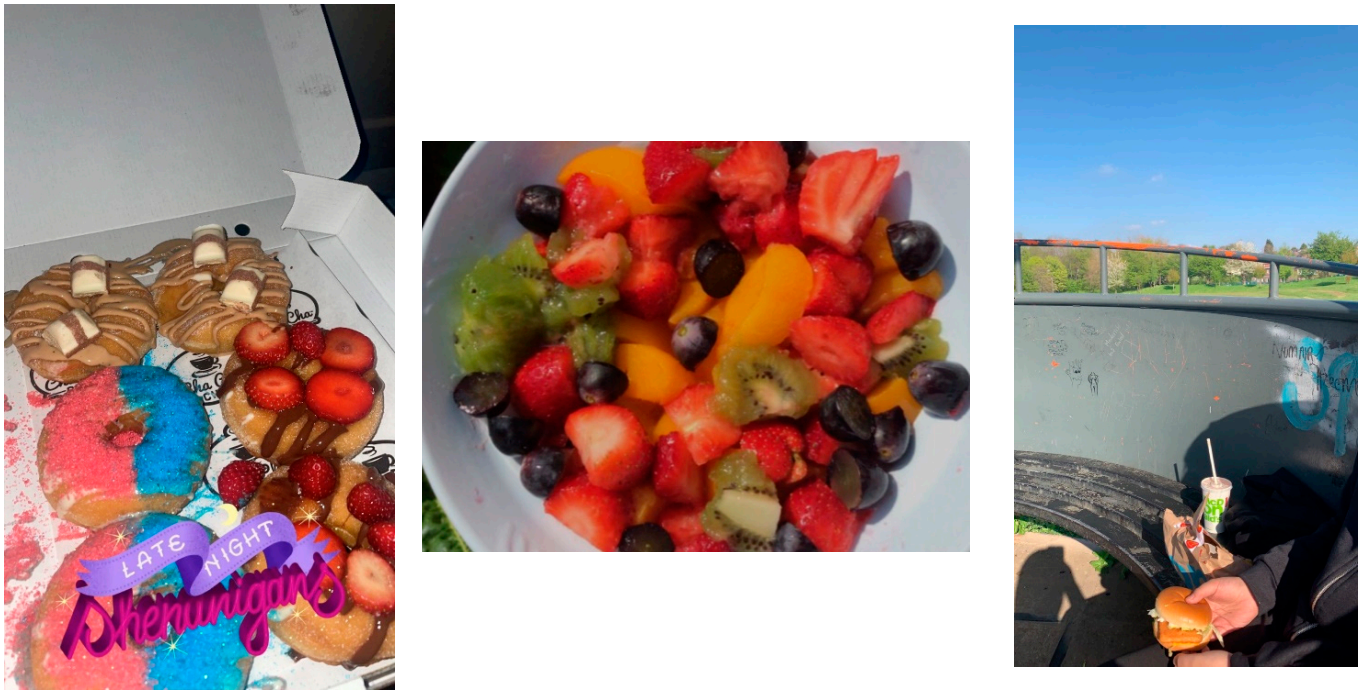

Figure 1. Selection of photographs (from **left** to **right**: "Late Night Shenanigans"; "My healthy choice meal (5-a-day)"; "McDonalds in the park").

3.3. Focus Group Themes

Four overarching themes were developed from the qualitative data, each with several sub-themes as described in Table 2.

3.4. THEME 1: Food Preference and Other Determinants of Food Choice

Participants reported that food choices were often determined by a number of factors including influencers (i.e., friends, social media), convenience, cost, and personal preferences.

3.4.1. Availability, Convenience, and Cost

Participants reported a desire for takeaways or purchasing HFSS products but had to reduce the frequency of their consumption due to cost.

Geographical location and opening times also dictated availability of food, and convenience was of primary importance to the participants sometimes resulting in the consumption of food that they would not necessarily have chosen (i.e., out-of-date/end of shelf-life items) or repetition of food practices resulting in frequent consumption of foods from the same restaurant.

Table 2. Themes and sub-themes with example quotes.

Theme	Sub-Theme	Example Quotes
THEME 1: Food preference and other determinants of food choice	Availability, convenience, and cost	*"when I order food and it's just for me, it does get expensive because on Uber you get the service fee and the delivery fee. . .for me that is expensive. Then sometimes I do like clear my basket and find something in the kitchen to eat". (Session 2, group D, female)* *"I do [eat out of date chocolate] cuz it's the only shop near me"(Session 1, group B, female)* *"I go to McDonald's actually more than I realise because it's literally a five-minute walk from my house." (Session 1, group B, female)*
	School food	*"The food in Year 7 was sick fam [sic]. Used to make lasagnes and everything, and now it's like. . ." (Session 1, large group, male).* *"Because they say it's Halal, but it's not, because basically, in order for it to be Halal, they need to just...so they say like a little prayer, which they do there. . . But when you stun it, it still feels pain, even if it's for a slight moment, and that's. . .that's not Halal" (Session 1, large group, male)* *"Yeah, so I feel like they should cater to us as well. Actually, we don't have much option." (Session 1, large group, female).* *"Most people have school [meals], but no one really likes it, we'd only really get the paninis" (Session 2, group D, female)* *"The line's fun. We just like standing in the line. That's why we end up getting the food. We pay for the food, but then we don't end up actually eating it." (Session 2, group F, female)* *"We're used to not eating in school. . ." (Session 1, large group, female)* *"for school meals that I make, I have a lot of choice. I make them myself." (Session 1, group A, female)* *"I feel like they have to ask us, like if we actually like the food because most people, I'd say, they don't like the food, but then, they don't really care because they keep making the exact same thing like every single day. So, if they asked like, oh um, . . .give us a choice. . ." (Session 1, large group, male)*
	Taste and desire (e.g., takeaways, treats, and eating out)	*"I feel like it's my favourite food. I literally live off noodles." (Session 2, group F, female)* *population "We have to restrict on a lot of things. . . When we go out, we have to find a Halal place. That's why we don't have a big option. (Yeah). We just have the same few places that we go." (Session 2, group F, female).* *"My mum will pick what I eat. I just feel like it's easier because you don't actually have to think about it. Like you can eat whatever's there." (Session 1, large group, female).* *"Usually the food that's more tastier, sometimes that's the more unhealthy choice. . ." (Session 1, group C, female)* *"if like a takeaway said oh, they are giving free delivery today then I'll just take that chance" (Session 2, group D, female)*
	Influencers (e.g., social media, friends, and parents)	*"I personally. . .I like trying new things. . .but my family. . .they like to stick to the same thing. . ." (Session 1, group C, female).* *"I feel like. . .to me, when I cook something say I've seen a video on TikTok and like, I feel like I'm craving it. . ." (Session 2, group F, female)*
THEME 2: Concept, understanding, and importance of health	Strong polarisation of healthy vs. non-healthy options	*"This is a fruit salad. . .it's healthy. . .I don't recommend having this all the time...it will make you more skinny", (Session 1, group A, female)* *"So like you haven't ate all day. So then if you've balanced your diet out then it'll help you for the next day" (Session 1, group A, female)*
	Parents and school as knowledge providers	*"The Eatwell Plate that you do like in primary school. . .I feel like it's gotten into our head. We know what healthy is, but we still don't eat it." (Session 2, group F, female)* *"Like my mum, she always says to me, 'Eat the chicken, not the like, too much of the rice. Eat more of the chicken. Cos, like, you want more protein than carbs.' Like just stuff like that." (Session 2, group F, female).* *"Yeah, you know, like when you look at something, you can just tell that's really unhealthy but I'm still gonna eat it" (Session 2, group F, female).*
	Health decision making	*"I'm probably just the most unhealthiest person on the planet. Yeah, I'm just like ordering McDonald's or I just can't survive another day." (Session 2, group F, female)* *"I want to actually try eating healthy, but it's just so much effort cooking all the like. . ." (Session 2, group F, female)* *"I prefer like. . . I prefer eating less than eating healthy" (Session 2, group F, female)* *"When I eat at home it's more healthy, but when I eat out, it's just takeaways. [I] Prefer takeaways." (Session 2, group F, female)*

Table 2. *Cont.*

Theme	Sub-Theme	Example Quotes
THEME 3: Developing autonomy, skills, and independence	Cooking and preparing independently (e.g., breakfast and snacks)	*"After school that's when I have what my mum gives me. . .and then in between that I just kind of choose what I'm gonna have" (Session 2, group D, female).* *"I just have breakfast on the weekends." (Session 1, group C, female)* *"I can make anything in the world, I just, I just experiment. I just did it myself, I'm a self-learner" (Session 2, group E, male)* *"I just don't know how to cook, I mean, I could learn but I choose not to" (Session 2, group E, female).* *"I can't cook, wish I could. My mum doesn't want me to. She just says, "Focus on your studies and go upstairs." So I can never. . .the most I can do is just like cut like vegetables and that's it. Most I can do it right now is just washing the dishes. . .she says it's faster by herself. I'm just holding her back." (Session 1, group C, female)*
	Helping in food practices (e.g., meal planning, shopping, and vegetable preparation)	*"Yeah, I don't cook, I don't cook that much. But I do help my sister out . . .Like she gives me like little instructions. Like I don't know how to actually do it. . ..'you chop up this and then I'll do this'" (Session 2, group F, female)* *"we have to wait [and all eat together in the evenings]"(Session 1, group B, female)* *"if I don't like the food that my parents make, I would cook my own food" (Session 2, group E, female)* *"I get my own meals, I don't order for anyone else. . .I don't like what my mum cooks all the time" (Session 2, group D, female)*
	Personal experiences of developing food autonomy	*"I tried making wedges like, you know, the takeaway ones and it didn't work. I. . .used gasoline instead of normal oil. . .like the oil you put in the car. . .They didn't die, they didn't die. They just got food poisoning. They didn't die though." (Session 2, group F, female).* *"I wake up. I won't have breakfast. If it's a school day, I'll just have a cup of tea. Then I'll survive all of school without food, maybe a chocolate bar or something. And then, three, four o'clock, I'll eat and then I'll go sleep for a bit and then wake up around eight and eat again. And I'll probably eat again around like half 12 and then go to sleep." (Session 2, group F, female)* *"after school yeah we go [to] shops and takeaways" (Session 2, group D, female)*
THEME 4: Role of community, friends, and family in food practices	Celebrations and special occasions	*"I tend to go out with family for meals. . . Sometimes I do go with my friends. But when you're with family, you can travel to more places. . . But when you're with just with your friends it's preferred to go eat locally or somewhere that's within walking distance" (Session 2, group E, female).* *"Everyone comes to my house, my mum's the oldest" (Session 2, group D, female).*
	Cultural and traditional foods	*". . .we have different foods that we eat. Like Indian...South Asian food. Yeah, we eat like, yeah, food that has a lot of like spices in it. That's why we're not used to that" (Session 2, group F, male)* *"she [mum] made rice and curry, she made roast chicken, kebabs, samosas" (Session 2, group D, female).* *"in like Asian like households normally we have more oily food like everyday. I personally don't think is healthy" (Session 1, group A, female)* *"I feel in our culture. . .in my culture, we eat a lot of carbs [carbohydrates]. We literally... like we have rice or like chappatis, yeah, with like every... almost every meal. I don't have it, but like my parents, they can literally eat rice and curry every meal every single day." (Session 2, group F, female)* *If i could cook, [. . .] I wouldn't be making curry all the time. I like pasta" (Session 2, group E, female)*
	Gifting and sharing of food	*"This is Ramadan Mubarak, ok. It tells us more about my culture and religion. . .so it is mostly about religion, and how we normally share food, give food, and also receive food from other people" (Session 1, group C, female).* *"And there's like charity work as well. So you can help people. . . Or they could give like donations, you could buy food baskets and give it to the people." (Session 1, group C, female).* *"It doesn't matter because it's more about giving than receiving. So, like my mum, she makes food for everyone. She never expects anything back. She gives it to the neighbours, my family. . ." (Session 1, group C, female).* *"I'll be unhealthy [driving to a takeaway] but it means I can spend time with my sister" (Session 2, group F, female)* *"Once every two weeks, like my whole. . . like uncles, aunties will all go to a restaurant. Full family meal. And then it's like fun because all the families together when there's food, they're all happy." (Session 2, group F, female).* *"And you'll never see an angry person when you go out to eat food, unless they're paying. I've never paid, so I don't really. . .". (Session 2, group F, female).*

3.4.2. School Food

School food was a hotly debated topic. There was a sense that school food had gone "downhill" since they started school and that the variety and availability of food had reduced. Participants reported that 95% of the students were Muslim and therefore ate Halal foods, but that the meat provided in school was not Halal which significantly reduced their lunch time options, often resulting in an enforced vegetarianism. Participants reported that 50% of the school population are eligible for free school meals but that the food provided was "repetitive", "bland", and "boring" with limited Halal options. This led to participants having cheese and tomato paninis or a jacket potato four days per week, with pizza and chips, or fish and chips being served on a Friday. This lack of choice often led participants to skip meals and waste food, sometimes queuing for school lunches purely for a social activity, only to then discard their meals when staff were not watching. As a result, students developed erratic meal patterns, eating primarily outside of the school day. Alternatively, participants took their own packed lunch to school which allowed them to have more control over the food they consumed and determine their food options. Participants felt that if the school and catering teams wanted to improve their provision then the school pupils needed to be involved and asked for their opinion. The participants were able to identify the flaws in the current school meal provision and identified solutions to issues such as lack of choice and long queuing times. Participants suggested that the school caterers should provide cold food items such as sandwiches to improve choice and reduce queue times, improve Halal provision, season food more appropriately to their tastes, provide a diversity of authentic international cuisine, provide nutritional labelling, and involve them in decisions around the foods that were being prepared for them.

3.4.3. Taste and Desire (e.g., Takeaways, Treats, and Eating Out)

Taste was recognised to be the primary driver of food choice and better taste was associated with unhealthier food options. However, taste was only one factor in a complex interplay that determined decision making. Participants mostly described a preference for takeaway and HFSS convenience foods such as pot noodles, pizzas, and desserts. There was a sense that takeaway options were limited by the provision of Halal foods and that even local fast-food restaurants were not catering for the local population. Therefore, restaurant and takeaway choices were restricted based on the provision of Halal food, accessibility (for restaurants), delivery fees (for takeaways), and access to public transport, with participants demonstrating a sense of value-for-money and autonomy in their decision making. However, some participants were content with the food provided at home and enjoyed home-cooked curries and meals.

3.4.4. Influencers (e.g., Social Media, Friends, and Parents)

Participants described a difference between their parents' food preferences and their own. Generally, parents preferred traditional foods such as curries, whilst participants had a more varied palate and enjoyed trying new foods and cuisines (e.g., Japanese foods), and other less traditional home-cooked options such as salmon and pasta.

Participants also discussed the ways in which they are influenced by family, friends, and social media, which drove a desire to try new or different foods and ultimately determined their food choices.

3.5. THEME 2: Concept, Understanding and Importance of Health

Health was strongly related to the concept of weight, with most discussions pertaining to health being correlated with weight loss, preventing weight gain, and being a healthy weight. Participants demonstrated a basic understanding of key healthy eating principles, such as the recognition of food groups, 5-a-day messaging and negative perceptions of HFSS foods. However, food items were polarised into "good" and "bad" choices and despite their interest and knowledge of healthy eating, participants preferred to eat less nutritious, takeaway, and convenience foods.

3.5.1. Strong Polarisation of Healthy vs. Non-Healthy Options

Many food items were categorised as healthy or unhealthy in a polarised manner, whilst some participants referred to the importance of balance. There was a sense that poor dietary choices and unhealthy food consumption could be counteracted by skipping meals or eating "healthy" meals of fruit and vegetables.

3.5.2. Parents and School as Knowledge Providers

Concepts and knowledge of health and healthfulness were primarily driven by parents and educators but were not generally an overt consideration for adolescents when they were making their own food decisions. As a result, participants described themselves as "*unhealthy*". Whilst many participants reported skipping meals and erratic meal patterns, this was not highlighted as being a concern. When questioned, participants did not feel that the 'healthiness' of a food determined their decision to eat it. Indeed, participants described how their desire to eat unhealthy food overrode their knowledge around healthy eating, better food choices, and any future health concerns. They felt that they had a good understanding from school, referring to tools such as the Eatwell Guide and the 5-a-day campaign and saw parents (particularly mothers) as advocates for eating a more balanced diet. Participants often referred to their parents as the gatekeepers for healthy eating who would encourage their children to eat less sugary or carbohydrate-heavy foods and ensure that they ate fruit and a range of food groups.

3.5.3. Health Decision Making

Participants identified themselves as "*unhealthy*". Nevertheless, participants described an understanding of healthy eating and articulated that they would like to be healthier, but they felt that there were a number of barriers that prevented them from doing so, including time, food preferences, and a perceived requirement for "*so much effort*" to be required for healthy eating. Health was predominantly driven and measured by weight management goals with many participants discussing that they prefer to eat less of the "*unhealthy*" foods than to try and eat a more balanced "*healthy*" diet. There was a big divide that participants perceived between "*healthy*" home-cooked food and "*unhealthy*" takeaways. Participants described how eating smaller quantities of unhealthy food was their health and weight loss strategy rather than eating more balanced meals.

3.6. THEME 3: Developing Autonomy, Skills and Independence

The participants were starting to develop some autonomy with their food and meal choices, and this was described in a number of settings.

3.6.1. Cooking and Preparing Independently (e.g., Breakfast and Snacks)

Participants often selected, prepared, and served their own breakfast and snack items, but had their evening meal provided and cooked by parents at home. Participants were usually responsible for preparing and organising their own breakfast. This resulted in participants sometimes skipping breakfast where there was a perceived lack of time or need on a school day, but more regularly consuming breakfast at weekends. Less commonly, participants described themselves as avid cooks and felt confident that they could cook anything they wanted, whilst others chose not to cook. In some cases, participants reported that their families prioritised their education and discouraged them from carrying out tasks in the kitchen so that they could focus on their studies. For those who had the opportunity to cook and be involved in food preparation tasks, there was a feeling of responsibility and maturity which gave confidence to the participants.

3.6.2. Helping in Food Practices (e.g., Meal Planning, Shopping, and Vegetable Preparation)

Adolescents helped with meal planning, shopping, and preparation within the family unit with variable levels of input and success. Parents or family members usually cooked the evening meal which tended to be eaten together with the family. However,

some participants ate alone or ordered takeaway food individually, depending on their preferences and home circumstances. Participants also reported an autonomy over their finances, with money available to purchase food out of the home and to buy takeaway food when they chose to. The organisation of the household determined the food practices of the adolescents to a large extent. Where families were home together in the evenings, meals were prepared and eaten together with adolescents contributing to food preparation tasks. However, autonomy in food choice was demonstrated, resulting from differences in food preference, leading to the cooking or ordering of alternative foods.

3.6.3. Personal Experiences of Developing Food Autonomy

Participants shared stories which reported several attempts to cook for families and friends which had ended disastrously with bouts of food poisoning, use of non-consumable ingredients, and burning of food items. As a result, these attempts knocked the participants' confidence and made them more reluctant to practice cooking skills again in an unsupervised manner.

As participants developed their food autonomy, breakfasts and snacks were the first eating occasions that they had control over, with some contribution to family meal selection, preparation, and planning.

However, skipping breakfast and disposing of uneaten lunchtime items of food that were purchased often resulted in erratic and irregular food patterns. After limiting food during the school day, participants reported eating larger meals or snacks after the school day had finished, which resulted in higher consumption of HFSS foods, especially if they were bought out of the home.

3.7. THEME 4: Role of Community, Friends, and Family in Food Practices

The idea of a community and eating occasions being a very social time was a clear overarching theme amongst the participants with one participant expressing their views on eating alone as "depressing". Food was used as a way of celebrating and acknowledging special occasions, representing and expressing cultural beliefs and identifying with traditional and religious food practices.

3.7.1. Celebrations and Special Occasions

Many participants shared photographs of meals that they had eaten outside the home. Eating out was popular with groups of friends and family and particularly when celebrating a special occasion such as birthdays and Eid. During Ramadan, meals were cooked and provided for the extended family but usually eaten in the home. Participants described how many of them lived close to each other and so would sometimes share food (usually desserts and sweet foods) with each other when there was an excess.

3.7.2. Cultural and Traditional Foods

Adolescents described how they enjoyed and preferred spicy foods due to the types of food that were traditionally served at home. They described school food as "bland", explaining their preference for aromatic food containing spices. However, participants believed that the health profile of traditional foods that were served at home was not always ideal, and also described how foods tended to be high in carbohydrates. Participants felt that things would be different if they had more skills and autonomy. They described a preference for a range of foods that combined traditional foods with Western foods (e.g., pasta) and how they would experiment with a range of cooking methods.

3.7.3. Gifting and Sharing of Food

A strong sense of community was discussed by all the participants, with food being gifted and shared regularly, which was particularly heightened around the time of Ramadan and Eid. They also described the importance of charitable aspects of Ramadan, and their religion, including giving and distributing donations and food baskets. There was a belief

that this work was important and that it aided other less fortunate families and ensured that food was provided to those who most needed help.

Participants and their immediate and extended family units would share food regularly with friends, family, and neighbours that had been cooked in the home.

Participants disclosed other motives for eating out such as the ability to spend time with friends and family which would otherwise not happen, and they related eating out to feelings of happiness and enjoyment. The emphasis on sharing food and it being synonymous with a sense of enjoyment and spending time with friends or family was very clear; however, the discussion around payment when eating out demonstrated that adolescents still have limited autonomy with payment of group meals which remains the responsibility of other family members.

4. Discussion

The aim of this study was to investigate the drivers of food choice in predominantly British–Asian, Muslim adolescents living in deprived areas of an English city [51].

The taste and appeal of food was identified as a dominant driver of food choice within the adolescent population, with many participants reporting that if they had a free choice, they would choose "unhealthy" takeaway foods every day, with one participant summarising this as "*I prefer eating less, than eating healthy*". Whilst taste appeared to be the dominant motivator of food choice [51], this was mitigated within a complex web of structures which limited food choice based on availability of these foods, and sometimes the prohibitive costs [52]. Therefore, food practices were driven by several factors such as availability, cost, friends, social media, parents and family, culture, external influencers, food preferences, and the autonomy they experienced in their own food decision making. This is well documented in previous work that demonstrates how health choices are related to autonomy, yet influenced by family, peers, the wider social environment, and society [30,31].

Participants in this study highlighted multifactorial influences on their food practices as described in the ecological framework proposed by Story et al. (2008) [19]. This model categorises the influences into the individual characteristics (personal), social environment (networks), physical environment (settings), and macro-level environment (see Figure 2) which are all interrelated [19]. This model has been adapted to include the additional impact of other influencers on the adolescent participants such as social media and educators and the importance of free school meal provision which can be an important influence in deprived communities [53]. The social environment such as eating occasions shared with friends and family dictated the food consumed, with home-cooked meals frequently being perceived as healthier, more traditional or "*boring*". Physical environments (food access, food availability, eating outlet provision in the area, and financial affordability) dictated the availability of food and was seen to be a dominant driver of food practices. The influence of physical environments was seen in school or restaurants when Halal food was unavailable and therefore selection was limited. Examples of this include at home where families' food purchases, lifestyle and home cooking practices influenced the availability of food [54]; and, unique to this study, place-based influences within the city itself due to the provision of Halal food only at select takeaways and restaurants. The macro-level influences (e.g., sociocultural norms) were apparent throughout the whole discourse, with Halal food being a primary driver and barrier of food choice for the participants. Some participants also described the influence of social media on food decision making which is more unique to this population group [55] and adds a more nuanced context to the ecological model of food choice (Figure 2).

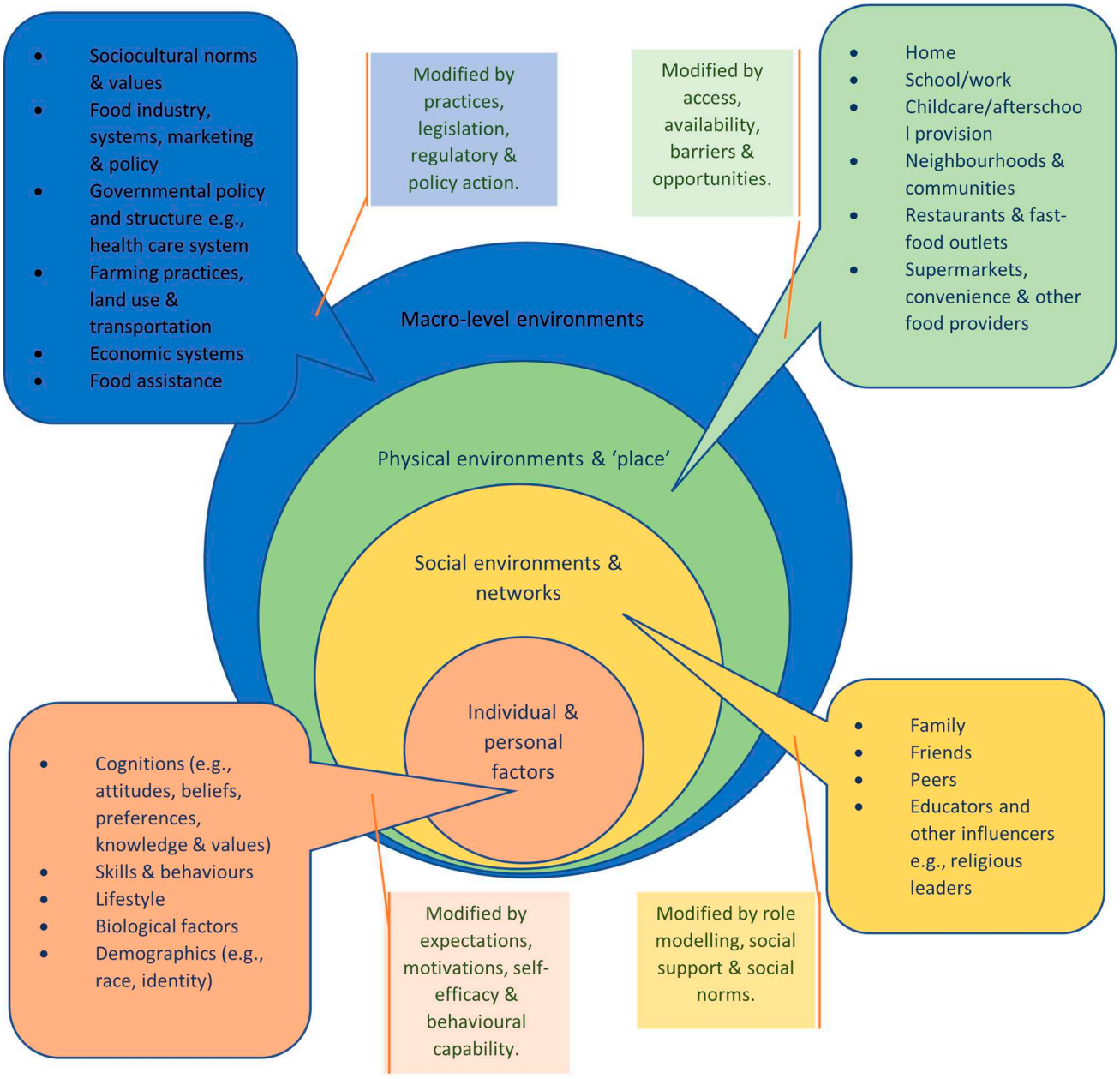

Figure 2. Ecological framework for food decision making in Muslim adolescents (adapted with permission from Story et al., 2008 [19]).

Preference for particular types of food was dictated by individual characteristics, including taste and appeal of foods, and usually drove a trend towards less healthy foods. Contrary to previous work, good health did not appear to be a key priority for these adolescents, although they did understand the connection between diet and good health [56]. Some participants felt more interested than others in pursuing a healthy diet. However, as previous work has summarised, there were numerous barriers to the consumption of health-promoting foods and whilst adolescents have a good understanding of healthy eating, they struggle to implement a health-promoting diet [3].

Erratic meal patterns and skipped meals were frequently reported, often because of a lack of time or enjoyment from the food provided, or irregular sleeping habits. Skipping meals was also seen as a way of managing weight and "eating less" which allowed HFSS foods to still be consumed but without impacting on the individuals' weight [57] and was therefore perceived as a healthier food practice.

Adolescence is defined as a period where autonomy is increased; however, in relation to cookery skills and producing their own meals, the current population appeared to have variable experience and motivation, which is also evidenced in the literature [58,59]. The data collated regarding autonomy of the individuals supported the view that adolescence is a transitional phase of acquiring and developing new food skills, knowledge, and practices [16]. Whilst some adolescents were reportedly very advanced in these areas, others are setting out in their acquisition of this skillset and were happy to rely on the safety net of family practices and provision. These influences on the family food environment are evident in previous research in a mixed population in Western New York [8]. A lack of autonomy in meal preparation has been noted within previous findings, with children stating that they will eat any food which is made for them, highlighting that parents have a strong direct influence on their child's food choices whilst they are still living at home [60]. Within this particular population group, parents and adult family members were primarily responsible for the evening meal and therefore the adolescents had less autonomy at this meal occasion.

In general, participants reported that they were free to choose and prepare all meals and snacks other than the evening meal, which was often provided at home, usually after consultation with the whole family. However, the level of autonomy was variable with most participants being allowed to prepare their own breakfast, make their own snacks, and take part in meal planning, shopping, and preparation such as chopping vegetables or setting the table. Some participants were discouraged from cooking by parents or were "*not trusted*" to cook the family meals but carried out other food-based activities such as baking. Attempts to be more autonomous in the kitchen sometimes led to poorly prepared food and food safety issues which reinforced the rhetoric that they were not to be trusted. Women have found that allowing their children to cook occasionally can lead to potential conflict as they may not be so familiar on the whole family's food preferences, and they tend to argue over getting the kitchen back into its clean, original state [61,62]. Within low-SES households, there may also be unspoken nuances about the cost of food which could be wasted if the meal cooked by the adolescent is unsuccessful. Where this is the case, there is likely to be a lack of resources to prepare an alternative meal, especially as a greater proportion of household expenditure is spent on food compared to high-income households [63].

Other participants demonstrated a large amount of autonomy and skill, cooking frequently at home, and felt confident in their abilities to provide a meal of their choice. The types of food prepared were often representative of both traditional, cultural foods and Western food items, perhaps expressing their dual identity through food with many adolescents only cooking for themselves rather than large family meals [32].

Despite this research being carried out with adolescents from the most deprived postcodes in the UK, financial pressures did not appear to be overtly significant in the focus groups and food insecurity and poverty were not disclosed to be factors in the adolescents' food decision-making processes. However, with financial constraints being ever-present in the background for low-SES groups, their food practices were likely to be determined within an already constrained financial environment, which perhaps participants felt did not need highlighting. Participants perceived that the majority of students attending their school were entitled to free school meals but that there was no stigma or shame associated with that and that "*no-one cares*". Therefore, the omission of food poverty from these discussions could indicate that it was a permanent feature within households and was therefore normalised by participants, or that there was a sense of stigma around food poverty and therefore participants did not disclose this information. Alternatively, there may have been a genuine lack of food insecurity within this population, perhaps biased by the self-selection of participants and families who consented to the study. Previous research has shown that in the UK, despite Pakistanis experiencing greater deprivation and poorer health outcomes compared to the white ethnic majority [64], Pakistani groups are at lower risk of food insecurity [65]. There are a number of proposed factors including the role

and importance of an 'informal security network' within South Asian communities [66,67]. These social networks and the associated systems of reciprocity—in particular the sharing of food which was demonstrated in the current study—amongst families in poverty within ethnic minority communities may mitigate the likelihood and impact of food insecurity [66].

Beyond social networks, established systems of welfare provision within Muslim communities may manage the severity of food insecurity. Participants discussed the gifting of food baskets and money during Ramadan to those less fortunate as a charitable activity. Zakat (compulsory almsgiving for Muslims) is an altruistic act, and it also has a fundamental economic function: to seek a fair distribution and circulation of wealth [68] and provides a practical and moral basis for welfare provision within Muslim societies [69]. In practice, Zakat tends to provide a supplementary channel of revenue raising and distribution alongside the welfare state. Money donated is used to support international charitable programmes and to fund independent Islamic educational initiatives and provide individual welfare grants to British Muslim families [69].

Despite this, more than 50% of the study population was living in the top 20% most deprived areas of the UK. It was apparent that adolescents had a concept and judgement of value-for-money when making food decisions, which particularly limited takeaway meals.

During the feedback session, participants advocated for changes to their school food provision, including more variety and flavoursome meals, cold food options (to reduce queuing time), better seasoned international foods, and meat-containing Halal meals. Although contentious, as many adolescents felt that they would not look at the information, some participants would like to see readily available nutritional information which indicated the calories and protein content of school food options. This is reflective of findings from previous research in the external school environment which found that while some adolescents were satisfied with their current food options, others wanted more variety and more healthy options at affordable prices [70]. A number of interventions have examined changes in food-purchasing behaviours [71] or health-related outcomes [72], in studies that manipulate price and/or item availability or suggest alternatives in shops/grocery stores. However, these studies have predominantly been among adults or families [73] but the impact of such interventions of adolescent food-purchasing behaviour is still under-researched.

The findings of this study are consistent with prior research using socioeconomically diverse adolescents which also found that this population group has a grasp of basic nutrition knowledge, thus suggesting that healthy eating dietary guidelines are taught and learnt about consistently regardless of SES [74,75]. International adolescent food surveys of those aged 11–15 years reported that only 48% eat fruit and vegetables daily with consumption declining as age increases [11]. Importantly, intake was lower in adolescents from more deprived backgrounds in most developed countries, highlighting the presence of food-related social inequalities [11]. However, the application and understanding of this basic knowledge is shown to vary across social class. Research carried out by Fielding-Singh (2019) discovered that high-SES adolescents believed that they have a greater opportunity to be healthy compared to those of lower-SES as they felt healthier food was too expensive for others to afford [75]. This could explain why participants in the current study had a perceived acceptance that they were comfortable with being unhealthy.

By addressing the identified barriers to healthy eating within this low SES, Muslim adolescent population, a whole systems approach to addressing nutritional inequalities can be realised which has the potential to prevent malnutrition, obesity and associated non-communicable diseases. Participants were able to identify and clearly articulate issues which were most pertinent to them and had a good understanding of their barriers to healthy eating, and suggestions for overcoming these barriers, particularly within the school food environment. What was evident is that poor food provision in school influences food practices over the rest of the day with HFSS snacks used to compensate for skipping school meals, leading to poorer quality nutritional intake, and erratic meal patterns. Policies, school food programmes, and interventions therefore need to be tailored to address all levels of the socioecological model including the socioeconomic and cultural context, and

place of residence of their target population. By including the voices of these underserved populations in the development of policy, practice, and interventions, there is a better chance of addressing these challenges in an effective and sustainable manner.

4.1. Strengths

To the author's knowledge, this is the first study to address experiences of low-SES, predominantly British–Asian, Muslim adolescents in England and their experiences of food practices and autonomy. It presents evidence on the barriers to and facilitators of healthy food practices in this group, and highlights the issues associated with healthy choices experienced by these individuals, raising concerns for their longer-term health.

A strength of this study is that PhotoVoice was used which allowed adolescents the opportunity to discuss their photographs and provide rich data which may not have been elicited from focus groups alone. It is an inclusive and collaborative methodology which allowed all participants to respond to the set task with a sense of empowerment. However, one of the critiques of PhotoVoice is that if the context of the photograph is not fully explored and understood by researchers, there is a risk that marginalised communities have stereotypes reinforced, thus undermining the research process [76]. It was therefore important that researchers were able to "sense check" the data collated and ensure that the views of the participants were accurately represented prior to publication. The study is reported in line with the Standards for Reporting Qualitative Research guidance [77].

4.2. Limitations

A main limitation of this study is the small sample size of participants from a very segmented population of 14–15-year-old predominantly female, Muslim, British–Asians from deprived urban areas who all attended the same school. Therefore, the findings are limited to this population group. Despite this, the findings are largely consistent with previous research in other ethnic groups and add additional context and nuance to the current body of literature from this under-researched population.

Due to the timing of the study, many participants discussed important cultural events such as Ramadan and Eid which were significant influences on their food choice and may bias the data collected. However, research is currently inconclusive as to whether Ramadan has a significant impact on adolescent food choice behaviour and nutritional intake [78–81], although further consideration is warranted.

In addition, whilst basic quantitative demographic data were collected, further data such as work status of parents, household composition, annual income, and free school meal eligibility may also have added additional context. However, it would be important to collect these data in a sensitive manner which adolescents could answer accurately, and without feeling stigmatised.

As with all qualitative data, there is the potential for respondent bias with those participants who take part in the research being more interested in the subject matter and presenting data which they feel the researcher is wanting, rather than describing their lived realities.

4.3. Future Research

Further research is required within this population group in older ages groups (i.e., 15–18-year-olds) to monitor and understand the evolution of autonomy throughout the period of adolescence and the impact on their food practices as they transition into adulthood.

Further one-to-one interviews with the adolescents to discuss food budgeting and insecurity would be valuable to establish the role of the social networks in mitigating food poverty in British Asian communities, and to gain insights from Muslim adolescents in non-deprived areas to see whether food practices are consistent across the socioeconomic spectrum.

It may also be useful to collect additional field data such as food diaries alongside the PhotoVoice methodology to understand the nutritional quality and energy intake of these individuals for predicting appropriate, tailored health messaging.

5. Conclusions

The adolescents in this study were developing autonomy in relation to their food practices, whilst navigating a complex web of factors which were in part determined by their social class location. The study demonstrates that low-SES, Muslim adolescents understood the constituents of healthy eating, but found it difficult in practice due to the perceived effort of being healthy and length of time spent preparing and cooking healthier food, rather than presenting an overt conversation regarding it being a monetary challenge. Parents and schools still highly influence food choices with adolescents preferring a broad palate of takeaway, HFSS, and convenience foods. When considering how to be healthier, adolescents reported that they would choose to eat less rather than focussing on the quality of their diet in response to their overriding desire for taste. Using a focussed ethnographical approach to data collection was highly effective in this population group and further studies to develop policy and practice are required.

Funding: This research was funded by Sheffield Hallam University fieldwork funding (Autumn 2021) and the APC was funded by Sheffield Hallam University Library and Information Services.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Research Ethics Committee of Sheffield Hallam University (ethics reference number ER37936285 on the 7 February 2022).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. Written informed consent has been obtained from the participants to publish this paper.

Data Availability Statement: Data is available by request at the Sheffield Hallam University Research Data Archives at the following link: http://doi.org/10.17032/shu-0000000177 (accessed on 19 October 2023).

Acknowledgments: The author would like to thank the research assistants Phebe Alabi, Audrey Chan, Ruby Herman, Yu Hsun, Hannah Wiseman, and Diyanah Zin and the participants and staff who facilitated the study.

Conflicts of Interest: The author declares no conflict of interest.

References

1. World Health Organization. *Adolescent Health*; WHO: Geneva, Switzerland, 2023.
2. Neufeld, L.M.; Andrade, E.B.; Suleiman, A.B.; Barker, M.; Beal, T.; Blum, L.S.; Demmler, K.M.; Dogra, S.; Hardy-Johnson, P.; Lahiri, A.; et al. Food choice in transition: Adolescent autonomy, agency, and the food environment. *Lancet* **2022**, *399*, 185–197. [CrossRef] [PubMed]
3. Daly, A.N.; O'Sullivan, E.J.; Kearney, J.M. Considerations for health and food choice in adolescents. *Proc. Nutr. Soc.* **2022**, *81*, 75–86. [CrossRef] [PubMed]
4. Baxter-Jones, A.D.; Faulkner, R.A.; Forwood, M.R.; Mirwald, R.L.; Bailey, D.A. Bone mineral accrual from 8 to 30 years of age: An estimation of peak bone mass. *J. Bone Miner. Res.* **2011**, *26*, 1729–1739. [CrossRef] [PubMed]
5. Hargreaves, D.; Mates, E.; Menon, P.; Alderman, H.; Devakumar, D.; Fawzi, W.; Greenfield, G.; Hammoudeh, W.; He, S.; Lahiri, A.; et al. Strategies and interventions for healthy adolescent growth, nutrition, and development. *Lancet* **2022**, *399*, 198–210. [CrossRef] [PubMed]
6. Norris, S.A.; Frongillo, E.A.; Black, M.M.; Dong, Y.; Fall, C.; Lampl, M.; Liese, A.D.; Naguib, M.; Prentice, A.; Rochat, T.; et al. Nutrition in adolescent growth and development. *Lancet* **2022**, *399*, 172–184. [CrossRef] [PubMed]
7. Patton, G.C.; Sawyer, S.M.; Santelli, J.S.; Ross, D.A.; Afifi, R.; Allen, N.B.; Arora, M.; Azzopardi, P.; Baldwin, W.; Bonell, C.; et al. Our future: A Lancet commission on adolescent health and wellbeing. *Lancet* **2016**, *387*, 2423–2478. [CrossRef] [PubMed]
8. Ziegler, A.M.; Kasprzak, C.M.; Mansouri, T.H.; Gregory, A.M.; Barich, R.A.; Hatzinger, L.A.; Leone, L.A.; Temple, J.L. An Ecological Perspective of Food Choice and Eating Autonomy Among Adolescents. *Front. Psychol.* **2021**, *12*, 654139. [CrossRef]
9. McKeown, A.; Nelson, R. Independent decision making of adolescents regarding food choice. *Int. J. Consum. Stud.* **2018**, *42*, 469–477. [CrossRef]

10. Public Health England, Food Standards Agency. National Diet and Nutrition Survey Rolling programme Years 9 to 11 (2016/2017 to 2018/2019). In *A Survey Carried Out on Behalf of Public Health England and the Food Standards Agency*; Public Health England: London, UK, 2020.
11. World Health Organization. Regional Office for Europe. Spotlight on adolescent health and well-being. In *Findings from the 2017/2018 Health Behaviour in School-Aged children (HBSC) survey in Europe and Canada*; International Report; WHO: Geneva, Switzerland, 2020; Volume 1.
12. Kebbe, M.; Perez, A.; Buchholz, A.; McHugh, T.-L.F.; Scott, S.S.; Richard, C.; Mohipp, C.; Dyson, M.P.; Ball, G.D.C. Barriers and enablers for adopting lifestyle behavior changes in adolescents with obesity: A multi-centre, qualitative study. *PLoS ONE* **2018**, *13*, e0209219. [CrossRef]
13. Hruby, A.; Hu, F.B. The Epidemiology of Obesity: A Big Picture. *Pharm. Econ.* **2015**, *33*, 673–689. [CrossRef]
14. NIHR. Providing Weight Management Programmes for People Living with Obesity. n.d. Available online: https://evidence.nihr.ac.uk/how-local-authorities-can-reduce-obesity/report/providing-weight-management-programmes/ (accessed on 3 June 2023).
15. Aldiss, S.; Ellis, J.; Cass, H.; Pettigrew, T.; Rose, L.; Gibson, F. Transition from Child to Adult Care—'It's Not a One-Off Event': Development of Benchmarks to Improve the Experience. *J. Pediatr. Nurs.* **2015**, *30*, 638–647. [CrossRef] [PubMed]
16. Das, J.K.; Salam, R.A.; Thornburg, K.L.; Prentice, A.M.; Campisi, S.; Lassi, Z.S.; Koletzko, B.; Bhutta, Z.A. Nutrition in adolescents: Physiology, metabolism, and nutritional needs. *Ann. N. Y. Acad. Sci.* **2017**, *1393*, 21–33. [CrossRef] [PubMed]
17. Neely, E.; Walton, M.; Stephens, C. Young people's food practices and social relationships. A thematic synthesis. *Appetite* **2014**, *82*, 50–60. [CrossRef] [PubMed]
18. Vandevijvere, S.; Swinburn, B. Towards global benchmarking of food environments and policies to reduce obesity and diet-related non-communicable diseases: Design and methods for nation-wide surveys: Table 1. *BMJ Open* **2014**, *4*, e005339. [CrossRef] [PubMed]
19. Story, M.; Kaphingst, K.M.; Robinson-O'Brien, R.; Glanz, K. Creating healthy food and eating environments: Policy and environmental approaches. *Annu. Rev. Public Health* **2008**, *29*, 253–272. [CrossRef] [PubMed]
20. Nettle, D.; Andrews, C.; Bateson, M. Food insecurity as a driver of obesity in humans: The insurance hypothesis. *Behav. Brain Sci.* **2017**, *40*, e105. [CrossRef] [PubMed]
21. Bourdieu, P. *Distinction a Social Critique of the Judgement of Taste*; Routledge: London, UK, 2000.
22. Swinburn, B.; Egger, G.; Raza, F. Dissecting obesogenic environments: The development and application of a framework for identifying and prioritizing environmental interventions for obesity. *Prev. Med.* **1999**, *29*, 563–570. [CrossRef]
23. Mahmood, L.; Flores-Barrantes, P.; Moreno, L.A.; Manios, Y.; Gonzalez-Gil, E.M. The Influence of Parental Dietary Behaviors and Practices on Children's Eating Habits. *Nutrients* **2021**, *13*, 1138. [CrossRef]
24. Mengi Çelik, Ö.; Aytekin Şahin, G.; Gürel, S. Do cooking and food preparation skills affect healthy eating in college students? *Food Sci. Nutr.* **2023**, *11*, 5898–5907. [CrossRef]
25. Potvin Kent, M.; Pauzé, E.; Roy, E.; de Billy, N.; Czoli, C. Children and adolescents' exposure to food and beverage marketing in social media apps. *Pediatr. Obes.* **2019**, *14*, e12508. [CrossRef]
26. Coates, A.E.; Hardman, C.A.; Halford, J.C.; Christiansen, P.; Boyland, E.J. Social Media Influencer Marketing and Children's Food Intake: A Randomized Trial. *Pediatrics* **2019**, *143*, e20182554. [CrossRef] [PubMed]
27. Craigie, A.M.; Lake, A.A.; Kelly, S.A.; Adamson, A.J.; Mathers, J.C. Tracking of obesity-related behaviours from childhood to adulthood: A systematic review. *Maturitas* **2011**, *70*, 266–284. [CrossRef] [PubMed]
28. Icenogle, G.; Cauffman, E. Adolescent decision making: A decade in review. *J. Res. Adolesc.* **2021**, *31*, 1006–1022. [CrossRef] [PubMed]
29. Chief Medical Officer. *Annual Report of the Chief Medical Officer 2012 Our Children Deserve Better: Prevention Pays*; Department for Health: London, UK, 2013.
30. Susman, E.J.; Rogol, A. Puberty and psychological development. In *Handbook of Adolescent Psychology*; Lerner, R.M., Steinberg, L., Eds.; John Wiley and Sons: Hoboken, NJ, USA, 2004; pp. 15–44.
31. Vera-Estay, E.; Dooley, J.; Beauchamp, M. Cognitive underpinnings of moral reasoning in adolescence: The contribution of executive functions. *J. Moral Educ.* **2015**, *44*, 17–33. [CrossRef]
32. Nguyen, A.-M.D.; Benet-Martínez, V. Biculturalism and Adjustment. *J. Cross-Cult. Psychol.* **2013**, *44*, 122–159. [CrossRef]
33. Carvajal, S.C.; Hanson, C.E.; Romero, A.J.; Coyle, K.K. Behavioural Risk Factors and Protective Factors in Adolescents: A Comparison of Latinos and Non-Latino Whites. *Ethn. Health* **2002**, *7*, 181–193. [CrossRef] [PubMed]
34. Moilanen, T.; Pietilä, A.-M.; Coffey, M.; Sinikallio, S.; Kangasniemi, M. Adolescents' lived experiences of making health choices: An ethical point of view. *Scand. J. Caring Sci.* **2018**, *32*, 914–923. [CrossRef] [PubMed]
35. Brady, G.; Lowe, P.; Lauritzen, S.O. Connecting a sociology of childhood perspective with the study of child health, illness and wellbeing: Introduction. *Sociol. Health Illn.* **2015**, *37*, 173–183. [CrossRef]
36. Lundy, L. 'Voice' is not enough: Conceptualising Article 12 of the United Nations Convention on the Rights of the Child. *Br. Educ. Res. J.* **2007**, *33*, 927–942. [CrossRef]
37. Smith, A. Children as Social Actors: An Introduction. *Int. J. Child. Rights* **2007**, *15*, 1–4. [CrossRef]
38. OFSTED. Find an Inspection Report. 2018. Available online: https://reports.ofsted.gov.uk/ (accessed on 8 September 2023).

39. Wang, C.; Burris, M.A. Photovoice: Concept, Methodology, and Use for Participatory Needs Assessment. *Health Educ. Behav.* **1997**, *24*, 369–387. [CrossRef] [PubMed]
40. Harper, D. Talking about pictures: A case for photo elicitation. *Vis. Stud.* **2002**, *17*, 13–26. [CrossRef]
41. Vélez-Grau, C. Using Photovoice to examine adolescents' experiences receiving mental health services in the United States. *Health Promot. Int.* **2018**, *34*, 912–920. [CrossRef] [PubMed]
42. Prosser, J. *Image-Based Research a Sourcebook for Qualitative Researchers*; Falmer Press: London, UK, 1998.
43. Locock, L.; Boaz, A. Drawing straight lines along blurred boundaries: Qualitative research, patient and public involvement in medical research, co-production and co-design. *Evid. Policy* **2019**, *15*, 409–421.
44. Wang, C.C.; Yi, W.K.; Tao, Z.W.; Carovano, K. Photovoice as a Participatory Health Promotion Strategy. *Health Promot. Int.* **1998**, *13*, 75–86. [CrossRef]
45. Wang, C. Photovoice: A participatory action research strategy applied to women's health. *J. Womens Health* **1999**, *8*, 185–192. [CrossRef] [PubMed]
46. Otter.ai Inc. Otter.ai. [last accessed 26 June 2022] **2022**. California, USA.
47. Gale, N.K.; Heath, G.; Cameron, E.; Rashid, S.; Redwood, S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Med. Res. Methodol.* **2013**, *13*, 117. [CrossRef]
48. Tong, A.; Sainsbury, P.; Craig, J. Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *Int. J. Qual. Health Care* **2007**, *19*, 349–357. [CrossRef]
49. Goldsmith, L. Using Framework Analysis in Applied Qualitative Research. *Qual. Rep.* **2021**, *26*, 2061–2076. [CrossRef]
50. STROBE. STROBE Strengthening the Reporting of Observational Studies in Epidemiology. 2023. Available online: https://www.strobe-statement.org/ (accessed on 22 May 2023).
51. Contento, I.R.; Williams, S.S.; Michela, J.L.; Franklin, A.B. Understanding the food choice process of adolescents in the context of family and friends. *J. Adolesc. Health* **2006**, *38*, 575–582. [CrossRef]
52. Neumark-Sztainer, D.; Story, M.; Perry, C.; Casey, M.A. Factors Influencing Food Choices of Adolescents: Findings from Focus-Group Discussions with Adolescents. *J. Am. Diet. Assoc.* **1999**, *99*, 929–937. [CrossRef] [PubMed]
53. Long, R.; Danechi, S. *School Meals and Nutritional Standards (England)*; House of Commons Library: London, UK, 2023; Available online: https://commonslibrary.parliament.uk/research-briefings/sn04195/ (accessed on 19 October 2023).
54. Rauber, F.; Martins, C.A.; Azeredo, C.M.; Leffa, P.S.; Louzada, M.L.C.; Levy, R.B. Eating context and ultraprocessed food consumption among UK adolescents. *Br. J. Nutr.* **2022**, *127*, 112–122. [CrossRef] [PubMed]
55. Kucharczuk, A.J.; Oliver, T.L.; Dowdell, E.B. Social media's influence on adolescents' food choices: A mixed studies systematic literature review. *Appetite* **2022**, *168*, 105765. [CrossRef]
56. Fleming, C.A.; De Oliveira, J.D.; Hockey, K.; Lala, G.; Schmied, V.; Theakstone, G.; Third, A. *Food and Me. How Adolescents Experience Nutrition Across the World. A Companion Report to The State of the World's Children 2019*; Western Sydney University: New South Wales, Australia, 2020. [CrossRef]
57. Rodrigues, P.R.M.; Luiz, R.R.; Monteiro, L.S.; Ferreira, M.G.; Gonçalves-Silva, R.M.V.; Pereira, R.A. Adolescents' unhealthy eating habits are associated with meal skipping. *Nutrition* **2017**, *42*, 114–120.e1. [CrossRef]
58. Balantekin, K.N.; Anzman-Frasca, S.; Francis, L.A.; Ventura, A.K.; Fisher, J.O.; Johnson, S.L. Positive parenting approaches and their association with child eating and weight: A narrative review from infancy to adolescence. *Pediatr. Obes.* **2020**, *15*, e12722. [CrossRef] [PubMed]
59. Lavelle, F.; Spence, M.; Hollywood, L.; McGowan, L.; Surgenor, D.; McCloat, A.; Mooney, E.; Caraher, M.; Raats, M.; Dean, M. Learning cooking skills at different ages: A cross-sectional study. *Int. J. Behav. Nutr. Phys. Act.* **2016**, *13*, 119. [CrossRef] [PubMed]
60. Holsten, J.E.; Deatrick, J.A.; Kumanyika, S.; Pinto-Martin, J.; Compher, C.W. Children's food choice process in the home environment. A qualitative descriptive study. *Appetite* **2012**, *58*, 64–73. [CrossRef]
61. Beagan, B.; Chapman, G.E.; D'Sylva, A.; Raewyn Bassett, B. 'It's Just Easier for Me to Do It': Rationalizing the Family Division of Foodwork. *Sociology* **2008**, *42*, 653–671. [CrossRef]
62. Lavelle, F.; Benson, T.; Hollywood, L.; Surgenor, D.; McCloat, A.; Mooney, E.; Caraher, M.; Dean, M. Modern Transference of Domestic Cooking Skills. *Nutrients* **2019**, *11*, 870. [CrossRef]
63. Office for National Statistics. *Inflation and the Cost of Living for Household Groups*; Office for National Statistics: London, UK, 2022.
64. Atkin, K. Understanding Health Inequalities. In *Understanding Health Inequalities Berkshire*; Graham, H., Ed.; University Press: Oxford, UK, 2009; pp. 125–140.
65. Power, M.; Uphoff, E.P.; Stewart-Knox, B.; Small, N.; Doherty, B.; Pickett, K.E. Food insecurity and socio-demographic characteristics in two UK ethnic groups: An analysis of women in the Born in Bradford cohort. *J. Public Health* **2018**, *40*, 32–40. [CrossRef]
66. Fitchen, J.M. Hunger, malnutrition, and poverty in the contemporary United States: Some observations on their social and cultural context. *Food Foodways* **1987**, *2*, 309–333. [CrossRef]
67. Shaw, A.; Charsley, K. Rishtas: Adding emotion to strategy in understanding British Pakistani transnational marriages. *Glob. Netw.* **2006**, *6*, 405–421. [CrossRef]
68. Ali, S.A. Social and economic aspects of the Islam of Mohammad. **1993**:xi.Edwin Mellen Press, Lewiston, NY.
69. Dean, H.; Khan, Z. Muslim Perspectives on Welfare. *J. Soc. Policy* **1997**, *26*, 193–209. [CrossRef]

70. Kelly, C.; Callaghan, M.; Nic Gabhainn, S. 'It's Hard to Make Good Choices and It Costs More': Adolescents' Perception of the External School Food Environment. *Nutrients* **2021**, *13*, 1043. [CrossRef] [PubMed]
71. Hartmann-Boyce, J.; Bianchi, F.; Piernas, C.; Riches, S.P.; Frie, K.; Nourse, R.; Jebb, S.A. Grocery store interventions to change food purchasing behaviors: A systematic review of randomized controlled trials. *Am. J. Clin. Nutr.* **2018**, *107*, 1004–1016. [CrossRef] [PubMed]
72. Abeykoon, A.H.; Engler-Stringer, R.; Muhajarine, N. Health-related outcomes of new grocery store interventions: A systematic review. *Public Health Nutr.* **2017**, *20*, 2236–2248. [CrossRef]
73. Holmes, A.S.; Estabrooks, P.A.; Davis, G.C.; Serrano, E.L. Effect of a Grocery Store Intervention on Sales of Nutritious Foods to Youth and Their Families. *J. Acad. Nutr. Diet.* **2012**, *112*, 897–901. [CrossRef] [PubMed]
74. Beck, A.L.; Iturralde, E.; Haya-Fisher, J.; Kim, S.; Keeton, V.; Fernandez, A. Barriers and facilitators to healthy eating among low-income Latino adolescents. *Appetite* **2019**, *138*, 215–222. [CrossRef]
75. Fielding-Singh, P. You're worth what you eat: Adolescent beliefs about healthy eating, morality and socioeconomic status. *Soc. Sci. Med.* **2019**, *220*, 41–48. [CrossRef]
76. Shankar, A. Auteurship and Image-Making: A (Gentle) Critique of the Photovoice Method. *Vis. Anthr. Rev.* **2016**, *32*, 157–166. [CrossRef]
77. O'Brien, B.C.; Harris, I.B.; Beckman, T.J.; Reed, D.A.; Cook, D.A. Standards for reporting qualitative research: A synthesis of recommendations. *Acad. Med.* **2014**, *89*, 1245–1251. [CrossRef] [PubMed]
78. Hasan, F.; Latzer, Y.; Diedrichs, P.C.; Lewis-Smith, H. A qualitative exploration of motivations for fasting and the impact of Ramadan on eating behaviors and body image among young adult Muslim women in the United Kingdom. *Eat. Behav.* **2021**, *42*, 101545. [CrossRef] [PubMed]
79. Osman, F.; Haldar, S.; Henry, C.J. Effects of Time-Restricted Feeding during Ramadan on Dietary Intake, Body Composition and Metabolic Outcomes. *Nutrients* **2020**, *12*, 2478. [CrossRef] [PubMed]
80. Al-Hourani, H.M.; Atoum, M.F. Body composition, nutrient intake and physical activity patterns in young women during Ramadan. *Singapore Med. J.* **2007**, *48*, 906–910.
81. Erol, A.; Baylan, G.; Yazici, F. Do Ramadan fasting restrictions alter eating behaviours? *Eur. Eat Disord. Rev.* **2008**, *16*, 297–301. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.