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### Article

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**Title: Determinants of eating behaviour in Black, Asian and Minority  
Ethnic (BAME) university students when living at and away from home:  
With a focus on the influence of food enculturation and food acculturation.**

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## Abstract

For some students, university, can be a period of increased autonomy in food choice and for black, Asian and minority ethnic (BAME) and international students, the addition of culture may be a governing factor. This study aimed to examine the extent of dietary acculturation and dietary enculturation on the influence of student's food choices using a phenomenological approach. *Sixty* participants (*forty-one* home students and *nineteen* international students) recruited by purposive sampling, were included in the study. Data collection involved self-administered multiple choice and short answer questionnaires and semi structured interviews. The results were analysed using thematic analysis. When living away from home, *six* major themes influenced the eating behaviour of the studied population: social environment, individual factors, physical environment, university life, enculturation and acculturation. When at home, five major themes were influential: social environment, individual factors, physical environment, enculturation and acculturation. The main findings suggest dietary enculturation is a factor which influences the dietary behaviour of both international students and BAME home students.

**Key words:** Acculturation, Food choice, Enculturation, Food neophobia, BAME students, international students.

## 1.1 Introduction

The rise in black, Asian and minority ethnic (BAME) and international students can be attributed to the globalisation phenomenon (Triandafyllidou, 2018). The last few decades have seen an increase in migration, particularly an increase in immigration to European countries (Delavari, Sønderlund, Swinburn, Mellor, & Renzaho, 2013; Katwala & Somerville, 2016), which in turn has created a growth in diversity in the population of university students.

The ethnic profile of UK universities respectively equates to BAME students accounting for 22.6% of the student population; which previously was 19.3% , in 2011 (Education and Skills Funding Agency, 2020). The numbers of international students attending universities in the UK have also increased over the past years. Data collated by the Higher Education Statistics Agency (HESA, 2020) found an 11% increase between the years 2014 (436,600 students) and 2019 (485,645 students). International students contribute greatly to the economy of the host country, this is through general expenditure and paying tuition fees (Lillyman & Bennett, 2014; Ramachandran, 2011). Data collected by Kelly et al. (2014) found international students contributed £7.37 billion in general off-campus expenditure and £3.6 billion in tuition fees in the academic year of 2011 to 2012.

Both international students and BAME students are becoming growing contributors to the student population in the UK, however the community remains invisible (Findlay, 2011). BAME students and international students contribute positively to higher education by providing a mixed cultural environment and offer a different perspective which enriches the local knowledge economy (Lillyman & Bennett, 2014; Ramachandran, 2011; Tange & Jensen, 2012; Vahed & Rodriguez, 2020).

The university experience is seen as an important aspect of an individual's life as it represents a period of autonomy and increased responsibility, which simultaneously affects food choice

and general healthy lifestyle choices (Holdsworth, 2009; Ingoglia, Inguglia, Liga, & Coco, 2016; Small, Bailey-Davis, Morgan, & Maggs, 2013; Tanton, Dodd, Woodfield, & Mabhala, 2015).

Eating behaviour and an individual's personal food system (Shepherd & Raats, 2006) is multidimensional and is influenced by a myriad of factors including intrinsic characteristics, physiology, psychology, socialisation and environment (Ferreira et al., 2019; Grimm & Steinle, 2011; le Roux & Bueter, 2014; Leng et al., 2017; Monteleone et al., 2017; Robinson, Thomas, Aveyard, & Higgs, 2014; Russell, Worsley, & Liem, 2015; Teixeira, Patrick, & Mata, 2011). Alongside this, culture is another added factor (Leung & Stanner, 2011; Osei-Kwasi et al., 2016). Ethnic minorities have the added factor of maintaining cultural traditions through the use of food, this is known as *dietary enculturation*, which is whereby an individual does not fully assimilate to the cultural values and norms of the dominant society and maintains their ascribed cultural traditions, norms and eating habits (Delavari et al., 2013). The study of Earland, Campbell, & Srivastava, (2010) exemplifies this as the study showed that that freshly-cooked traditional food was an important part of the diets of African-Caribbean adults. However, in some cases food acculturation is exhibited in the eating behaviours of ethnic minorities, particularly in second-generation migrants (Leung & Stanner, 2011) - this is because they may possess a *hybrid identity*, their identity may be shaped by their cultural socialisation, which promotes their ethnic heritage, as well as be shaped by their nationality and country of birth (Wagner, 2016).

Currently, the literature available on influence of *dietary acculturation* - the process to which immigrants adopt the dietary practices and customs of the dominant culture/ host country - on the dietary behaviour of students is abundant for international students attending English speaking universities (A. A. Alakaam, Castellanos, Bodzio, & Harrison, 2015; Almohanna, Conforti, Eigel, & Barbeau, 2015; Li et al., 2017; Mustafa, 2016; Nwaugochi & Kennedy, 2019;

Wu & Smith, 2016). For example, the study conducted by O’Sullivan & Amirabdollahian, (2016), examined the influence of students sojourning to the UK and its impact on dietary habits. The study included interviewing 10 international students attending any University in the Northwest of England and found that cultural adaption was a common theme. On the contrary, BAME home students remain invisible and underrepresented in the current literature available and there is limited literature available on the influence of enculturation on eating behaviour and food choice.

Therefore, this study aimed to 1) bring visibility to the eating behaviours of both BAME home students, and international students; 2) establish whether food enculturation is a contributing factor to the dietary habits of the studied population given the increased autonomy associated with university life, 3) compare whether food enculturation was more influential on eating behaviour and food choice of international students, juxtaposed to BAME home students.

## **2.1 Methodology**

Qualitative research was opted for and phenomenology was used to explore the meanings behind people’s lived experiences (Hennink, Hutter, & Bailey, 2020). Before any research was conducted, ethical approval was granted by the School of Sport and Exercise Sciences Ethics committee in Liverpool John Moores University (study reference number: 20/SPS\_Marsh/NU/012). Following approval data collection commenced for three months from November 2020 to January 2021.

## **2.2 Participants**

Following approval, purposive sampling was used to gain the identified sample population: BAME home students and international students. The inclusion criterion was not limited to age

and only required the participants to be currently studying either an undergraduate, postgraduate, masters or PhD degree (in any subject) in the United Kingdom at any University. As the study aimed to examine the eating behaviours of BAME students and international students; the study excluded White British students. Students residing at home during university term time were also excluded from the study as the study aimed to compare the diets of the students when living at home against their dietary behaviour when living away from home.

Contact was made with university societies which were culture focused such as the Afro-Caribbean society, Bangladeshi society, Spanish society, Malay society etc. A total of 460 societies were contacted, which derived from 32 different UK universities; the universities included in the study were selected randomly.

An invitation email was directed to all 460 societies, which provided details of the study including the title and participation information: potential participants could opt to either complete the attached online questionnaire or contact the researcher to schedule the interview alternative. The email also emphasised that participation was voluntary, no incentives would be offered and that consent would be obtained before participating in either the questionnaire or interview.

Chain referral sampling, a method which yielded more participants by one subject contacting acquaintances to take part in the study was the method used to increase the number of interview participants who were international students (Etikan, Alkassim, & Abubakar, 2016; Heckathorn, 2011).

### **2.3 The Eating Behaviour Questionnaire**

The eating behaviour questionnaire included three sections. The first section included obtaining written consent and confirmation that the participants had fully read and understood the

participation information sheet. The second section then progressed to asking a series of socio-demographic questions (this included: age; university attended, university programme and year of study; whether the participants were home students or international students; country of birth; ethnicity; country associated with cultural identify; time period residing in the UK; and finally, nature of term-time residence). The socio-demographic questions were to help filter out any participants who did not meet the inclusion criteria, for example for respondents who answered 'live at home' during university term time then the questionnaire would automatically terminate.

The third section included 6 open-ended questions (see Table 1) - inspired by the study conducted by Kabir, Miah, & Islam, (2018) - which sought to gather details regarding the student's dietary habits at home, during university term time (away from home) and whether culture was influential. Each question was also accompanied by several probing questions, which aimed to improve the quality and length of the respondent's answers (Behr, Bandilla, Kaczmirek, & Braun, 2014; Behr, Kaczmirek, Bandilla, & Braun, 2012; Holland & Christian, 2009).

## **2.4 Interviews**

Due to the COVID-19 pandemic interviews were virtual using Microsoft Teams. Each interview was recorded using the recording feature on the software. The interviews were semi-structured and used the same questions that formed the basis of the questionnaire (see Table 1), with the addition of probing questions to increase the detail and amount of information gathered from each participant (Weller et al., 2018). The interviews were conducted by the same researcher (the first author), who received training in qualitative research as part of a final year research methods module delivered at the university.



**Table 1: Questions that Formed Basis of Questionnaire and Interviews**

Question type	Question
Introduction	Age, University, year of study, international student or home student, Country of birth, ethnic background, cultural identity ( <i>what country they identify with</i> ), length of residence in UK, residence type during University term time.
Key questions	<p>Say something about your food selection during UNIVERSITY term time.</p> <p>Please say something about your food selection when at residing HOME.</p> <p>What are the important elements/aspects/ issues that affect your food choices in and around your UNIVERSITY residence?</p> <p>How influential is culture on your food intake in and around UNIVERSITY term time?</p> <p>What elements / aspects / issues affect you eating traditional foods at your UNIVERSITY residence?</p> <p>What elements / aspects / issues affect you eating traditional foods when residing at HOME?</p>

## 2.5 Data Analysis

IBM SPSS Statistics 27 was used to analyse the descriptive statistics of the sample population. The data obtained from the recorded interviews were transcribed verbatim using Windows Media Player and Microsoft Word. All the textual data collated from both the questionnaires and interviews underwent thematic analysis, a widely used method in health research that is especially relevant to applied research settings (Clarke & Braun, 2014). Repeated reading was used to generate codes to help stratify the major themes and sub themes of the participants answers (Clarke & Braun, 2014). Author 1 and Author 3 conducted the repeated readings and

coding independently and a general consensus was reached following discussions between all authors; this was to ensure the validity of the data interpretations.

### 3.1 Results

A total of 55 questionnaires were submitted (BAME home students n= 42 respondents; international students n= 13 respondents). However, 12 participants were excluded from the study for submitting uncompleted questionnaires. Following exclusion, the final questionnaire sample included 32 home students and 11 international students.

Alongside this 17 interviews were conducted (BAME home students n = 10 interviewees; international students n = 7 interviewees). The final sample size included 42 home students and 18 international students currently studying either an undergraduate, postgraduate, masters or PhD degree (in any subject) in the United Kingdom, totalling 60 participants.

### 3.2 Sociodemographic Characteristics

The mean participant age was  $21.73 \pm 5.14$  years (range = 18 – 50 years, Table 2). The ethnicities of the participants included Black or Black British (n = 39), Asian or Asian British (n = 11), Mixed Heritage (n = 1), White Non-British (n =1), Kurdish (n = 2), Latino and Hispanic (n = 5), and Jewish (n= 1). The total number universities included in the study was 17 with the majority of participants coming from The University of Manchester (Table 2). As residing at home during university term time was an exclusion factor the results of the study showed that 56 participants lived either in student halls (n = 23) or in private student housing (n = 33). Three participants lived in a professional house share and one participant lived with their partner's extended family in UK.

188 **Table 2: Sociodemographic Characteristics of Participants**

<i>Sociodemographic characteristics</i>	Number of participants	
	Questionnaire (Q)	Interview (I)
Age in years (mean $\pm$ SD)	21.73 $\pm$ 5.14	
<b>Ethnicity</b>		
Black or Black British (n)	30	9
Asian or Asian British (n)	6	5
Mixed Heritage (n)	0	1
White Non-British (n)	1	0
Kurdish (n)	2	0
Latino and Hispanic (n)	3	2
Jewish (n)	1	0
<b>Academic year of study</b>		
First Year (n)	9	0
Second year (n)	13	3
Final / Third Year (n)	14	11
Masters (n)	7	2
PhD (n)	0	1
<b>University</b>		
University of Hull	2	0
Hull and York Medical School	2	0

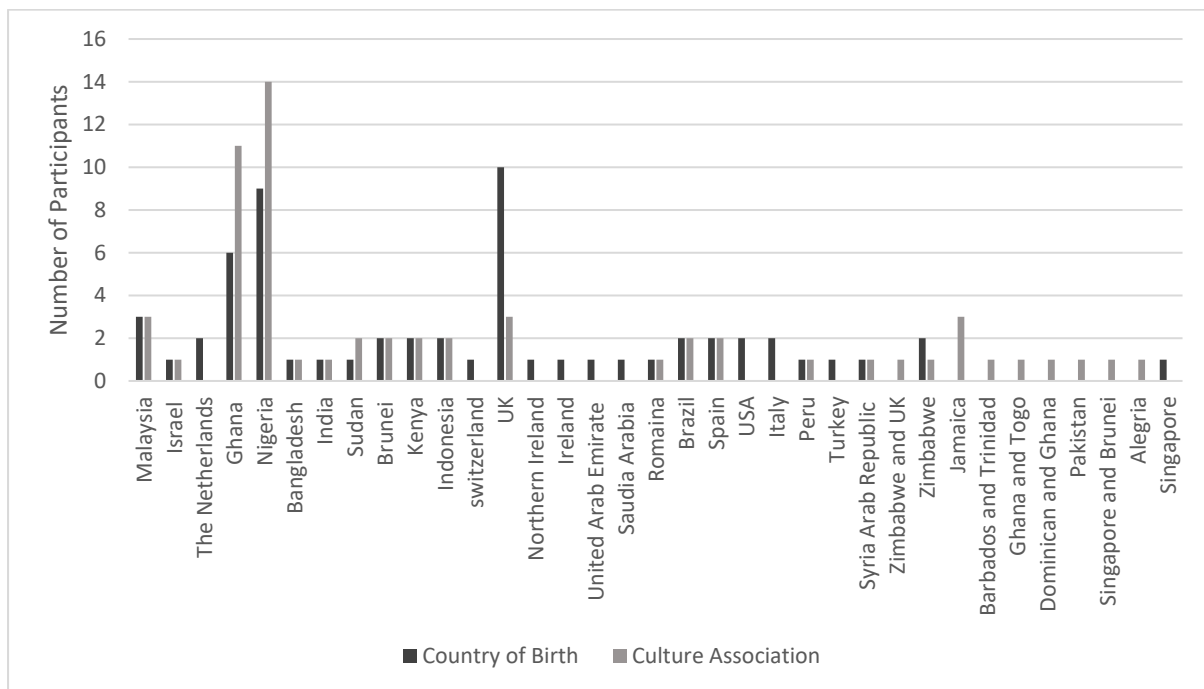
Liverpool John Moores University	5	3
University of Liverpool	5	5
University of Oxford	4	0
University of Manchester	13	3
Warwick University	1	0
Liverpool Hope University	4	1
Sheffield Hallam University	1	0
University of Leeds	1	0
London school of Economics	2	0
University of Law	0	1
Coventry University	0	1
Birmingham City University	0	1
University of Huddersfield	0	2
University of Nottingham	1	0
University of York	2	0
<b>Time Period residing in UK</b>		
Born in the UK	8	2
Less than 1 year	2	0
1 - 2 years	4	0
3 – 5 years	9	7
More than 5 years	20	8

189

190 The cultural background of the participants of the study was varied and covered Europe,

191 Asia, the Caribbean, and America. The results of the study also show the idea of hybrid

identity as a few participants listed dual countries when answering what country they identify with culturally (See Fig 1).

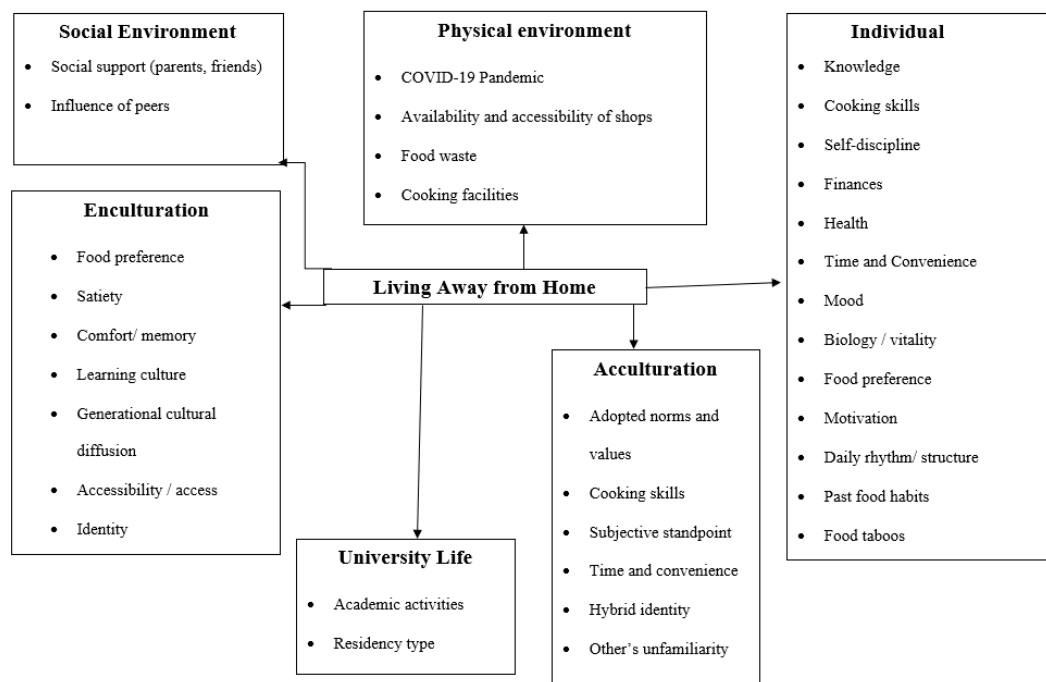


**Fig 1:** Country of birth of the participants and the country of cultural identity association of each participant.

### 3.3 Textual Data

Six major themes were found to determine the eating behaviours of BAME home students and international students when living away from home; these included social environment, individual (intrapersonal factors), physical environment, university life, enculturation and acculturation, see Fig 2. Five major themes were found when residing at home (Social environment, Individual (intrapersonal factors), physical environment, enculturation and acculturation) – see Fig 3. University life was the only additional factor found when residing away from home compared to when living at home. Each of the major themes also further differentiated into sub-themes.

**Fig 2:** A schematic diagram of the themes and sub-themes found in the textual data regarding living away from home: during university term time



209

## 210 **Living Away from Home: Social Environment**

211 Social environment was a common theme observed in the comments of the respondents. This  
 212 included factors such as having a social support network in terms of sharing cooking meals  
 213 with housemates and practicing commensality. *“I live with 2 other British Asians, and we all  
 214 share the cooking and eat dinner together. We eat a variety of cuisines but primarily Indian”*  
 215 *(participant Q-36, home student,)*

216 *“Us as housemates we take turns in cooking, so I’m pretty lucky to have my housemates, that  
 217 we take turn” (participant I-2, international student)*

218 The influence of peers also determined what the students would consume, particularly in regard  
 219 to opting to eat out. *“I cook, and basically never eat out unless my housemates want to do a  
 220 dinner together” (participant Q-24, home student)*

221

## 222 **Living Away from Home: Individual Factors**

223 As seen in Fig 2, the greatest determining theme, which influenced the students' eating habits  
 224 were individual factors, including factors such as cooking skills, mood, finance, motivation,  
 225 vitality and time and convenience to cook foods. It was apparent that the sense of allocating  
 226 time to cook less time-consuming foods was the most favoured practices; this was to allow for  
 227 the students to complete their schoolwork.

228 *"I think it goes back to quick and easy, because as a uni student, if you have so much work*  
 229 *and like your food is going to take 2 hours to cook, you're probably gonna be like I haven't got*  
 230 *time for that. If its pasta, pasta is quick... I can do that and then do my work."* (participant I-  
 231 *I: home student)*

232 *"My classes, club activities and assignments; The more I have to do, the more likely it is for*  
 233 *me to chug down a breakfast drink or eat cereal or instant food"* (participant Q-42,  
 234 *international student)*

235 Finance was also the second most prominent answer given. Some participants justified  
 236 avoiding eating out as it is expensive in comparison to eating home cooked meals. *"I tend to*  
 237 *only eat food that I have cooked at University, as I like to save money, so majority of the food*  
 238 *I eat is from my culture and it is my favourite type of food"* (participant Q-41, home student).

### 239 **Living Away from Home: University Life**

240 A common pattern observed was that the students would compromise their dietary habits to  
 241 accommodate the demands of university life *"My classes, club activities and assignments; The*  
 242 *more I have to do, the more likely it is for me to chug down a breakfast drink or eat cereal or*  
 243 *instant food"* (participant Q-42, international student).

244 For some, their residency type influenced what foods were consumed. Those who resided in  
 245 catered student halls had less dietary autonomy *"I don't have access to a kitchen so I can't*  
 246 *cook properly and the food they serve in the Hall has limited choice and doesn't taste that good.*

247 *Also due to covid you can't eat in Hall normally so the social aspect of it is gone" (participant*  
 248 *Q-27, home student)*

249

## 250 **Living Away from Home: Physical Environment**

251 The interviews took place during the COVID-19 pandemic and thus the influence of the  
 252 pandemic was found to be an influencing factor on the eating habits of the students. *"I just feel*  
 253 *like in final year, in this pandemic, of course my diet has changed... Ermm I think from, like...*  
 254 *October to January, it changed to the worst but now, I feel like it's changed for the better. I*  
 255 *also ordered quite a bit due to covid" (participant I-9, home student).*

256 The locality and accessibility of shops was also a determining factor on the eating behaviours  
 257 of the students, this was particularly the case in respect to the consumption of cultural food.  
 258 *"The only cultural foods that I make on my own time is because of the easy access to the*  
 259 *ingredients I can find in close shops like Lidl. For example, jollof rice ingredients aren't hard*  
 260 *to get versus getting ingredients for Egusi" (participant I-6, international student)*

## 261 **Living Away from Home: Acculturation**

262 Acculturative dietary practices were observed in both the BAME home students and  
 263 international students. The main justifications for their acculturative practices were factors  
 264 included accessibility to particular foods/ ingredients, time and convenience and the limited  
 265 cooking skills.

266 *"I don't eat much cultural food because it is not convenient. Most cultural food from home is*  
 267 *highly labour intensive" (participant Q-17, home student)*



268 *“Traditional food is important to me as it keeps me grounded to my roots and background*  
 269 *when I feel out of touch with my culture. If I had the time, I would prefer cultural dishes.*  
 270 *However, my diet consists more of non-cultural dishes.” (Participant Q-5, home student).*

271 *“I don’t really eat cultural food, I don’t know how to make it.” (Participant Q-9, international*  
 272 *student)*

273 However, it can be noted that peer scrutiny was also a determinant. For some participants  
 274 acculturative stress was placed from housemates who were not accustomed to ethnic food as  
 275 thus the fear of judgement would influence the participants to present dietary acculturative  
 276 eating habits.

277 *“Yeah, I used to put my plantain like by the cooker and then I don’t know, my housemates*  
 278 *must’ve thought it was a rotten banana. And I saw it in the bin the next day... so, I feel like that*  
 279 *as well, stopped me from making my cultural food” (participant I-9, home student)*

280 *“I had some flatmates where yeah, I felt judged, like I’d be cooking my Indian curries, and like*  
 281 *they wouldn’t say anything, but they’d come and like open the window and then walk back out*  
 282 *again \*laugh\*, so I would try and avoid cooking when they were in the kitchen” (participant*  
 283 *I-15, home student)*

#### 284 **Living Away from Home: Enculturation**

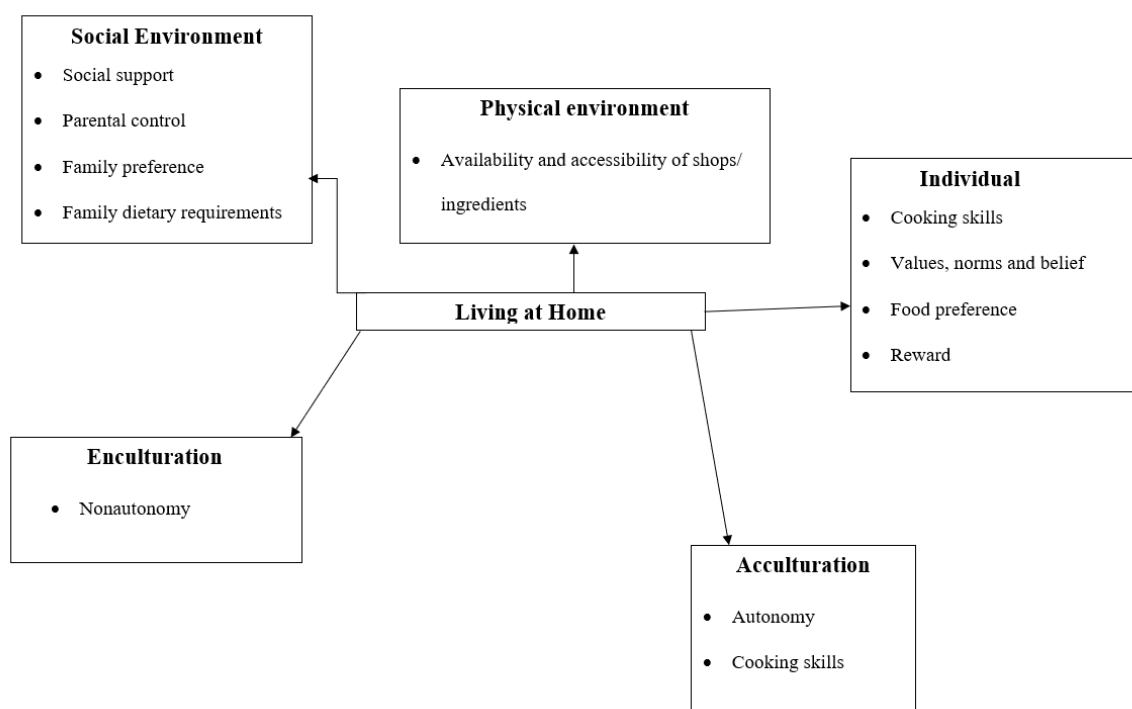
285 On the contrary, some students mentioned the practice of both enculturation and acculturation.  
 286 For some, enculturation was practiced when the cooking was shared between housemates, *“The*  
 287 *dishes I mentioned do take time to cook... the reason why me and my housemates sort of take*  
 288 *turns cooking is sort of because like all of the Bruneian dishes that I mentioned, they’re very*  
 289 *family dishes, it’s not something that’s meant to be eaten alone, so that’s why it takes time to*  
 290 *cook and that’s why usually we cook it in very big amounts” (participant I-11, international*  
 291 *student).*

Discussions around comfort and the sense of home were also brought up as a reason for practising enculturation.

*“My diet is mainly a lot of cultural food because at uni it is many different types of rice like jollof and chicken. I think it is important to eat cultural food because it brings good memories of our childhood and also reflects who we are.” (Participant Q-18, home student).*

*“My culture does influence a lot because I reach for the comfort flavours” (participant I-16, international student).*

**Fig 3: Themes and Sub-themes Found in the Textual Data Regarding Living at Home**



### **Living at Home: Social Environment**

304 When residing at home the greatest determinant on the eating behaviours of the students was  
 305 parental support. For many their meals were prepared by their parents and thus the students  
 306 presented more dietary enculturation in comparison to when living away from home.

307 *“At home my mother takes care of the cooking for the most part, so it’s pretty much cultural*  
 308 *food always.” (Participant Q-2, home student)*

309 *“Out of term-time, I stay with my sister who lives in the UK as well. She is more used to cooking*  
 310 *traditional foods, so I tend to eat cultural foods like egusi soup, beans porridge, yam porridge,*  
 311 *jollof rice etc. My sister and her husband cook all the meals I eat in their home” (participant*  
 312 *Q-23, international student)*

### 313 **Living at Home: Individual Factors**

314 Individual factors were less prominent when the student’s discussed their eating habits at home.  
 315 Themes addressed included, personal norms and values such as practicing vegetarianism; and  
 316 an element of reward in terms of home much the individuals ate.

317 *“My family are meat eaters so I am the one who usually cooks since I have voluntary diet*  
 318 *restrictions (I’m vegetarian) and can keep track of what is in meals when I make them”*  
 319 *(participant Q-15, home student).*

320 *“I tend to go HAM because it’s the holidays and thus I deviate from my normal or typical meal*  
 321 *portions and food types or choices” (participant Q-23, International student).*

### 322 **Living at Home: Physical Environment and Enculturation**

323 Throughout the data, there was great interlinks between the different underlying themes/  
 324 determinants which influenced the dietary habits of the students. Notably, a reoccurring pattern  
 325 observed, was that the students relayed that they had fewer physical barriers such as  
 326 accessibility to shops to gain the ingredients to consume their native foods.

327 *“Since time is not a problem and there's lots of cultural food stores around me at home, I eat*  
 328 *traditional foods all the time” (participant Q-23, International student).*

### 329 **Living at Home: Acculturation**

330 Acculturative eating habits was present in the answers of the students, when discussing their  
 331 eating habits at home. However, there was no general consensus on the degree of acculturation.  
 332 For some acculturation was commonly practiced and for some, acculturation was rarely  
 333 practiced.

334 *“The only time there is non-cultural food per se, is when me and my siblings cook, and yeah....*  
 335 *So, like we'd make like a shrimp alfredo, or like a str-fry, or like my sister likes to make Mexican*  
 336 *food like burritos, quesadillas” (participant I-9, home student)*

337 *“Erm I'm not gonna lie, as a Zim person, there's not much to really go on, like there's not*  
 338 *really much food that we have, its literally just like meat, so at home its mainly western apart*  
 339 *from sadza” (participant I-12, home student)*

340 *At home it's probably like a 90:10 situation like eating more traditional food.... I think for me*  
 341 *if I come home and cook something that's not traditional, my parents will eat it, but they will*  
 342 *never go out of their way to make it themselves.” (Participant I-15, home student)*

343

344

## 345 **4.1 Discussion**

### 346 **4.2 Determinants of Eating Behaviour: Living Away from Home**

347 The main aim of this study was to determine the key contributing factors which drive the eating  
 348 behaviours of BAME students and international students. This study also intended to examine

whether enculturation was a determining factor, which contributed to the personal food system of BAME home students and international students. This is important because the BAME community have remained as an underrepresented population in current available literature and according to Alexander (2015), literature and universities are a long way from exemplifying ethnic equality and diversity. Moreover, previous studies have sought to examine dietary acculturation, however, there are limited studies on the influence of dietary enculturation. In this study of BAME students both home and international students were included; however, the study was voluntary and the respondents were predominantly from the black community.

As addressed by several literature, the process of establishing one's food choice and eating behaviour is highly complex and governed by a multitude of factors (Chen & Antonelli, 2020; Leng et al., 2017; Osei-Kwasi et al., 2016; Sobal, Bisogni, & Jastran, 2014). The results of this study aligned with previous research as many contributing factors were found to influence the eating behaviour of the students included in this study (A. Alakaam & Willyard, 2020; A. A. Alakaam et al., 2015; O'Sullivan & Amirabdollahian, 2016).

As seen in Fig 2, during university term time six main themes were identified, these included social factors, Individual (intrapersonal) factors, one's physical environment, university life, enculturation and acculturation. Each theme also further differentiated into sub-categories. From the results of this study, it can be deduced that individual factors was the key determinant. The emerging themes found in this study following thematic analysis reflect similarly to the results of existing research, for example, the study conducted by Kabir et al. (2018), which measured the eating behaviours of students in a Bangladesh public university. The concordant themes include individual factors, university related factors, societal factors and environmental factors. Additionally, the drivers of eating behaviour observed in this study also corroborate with the findings of Deliens, Clarys, De Bourdeaudhuij, & Deforche (2014), the overlapping

major themes between the studies include individual, social environment, physical environment and the influence of university life.

The transition to university for many students includes the addition of adapting new life skills to accommodate the increased autonomy. According to Glik and Martinez (2017), these skills include time management and food related skills. Notably, within this study, time and convenience was the most prominent factor. Inferences from the answers given by the participants suggests an element of compromise is made between university life and deciding what to cook and what to eat.

The effect of time and convenience on dietary behaviour has been a common finding in several studies (Hilger, Loerbroks, & Diehl, 2017; Musaiger et al., 2014; Pelletier & Laska, 2012) and according to Pelletier & Laska (2012), universities should consider strategies such as establishing a curriculum or providing courses, which factors in life skills such as time management. Notably, for both BAME home students and international students, time and convenience was the ultimate justification for dietary acculturation. Time was deemed the main barrier to dietary enculturation, in terms of preparing ethnic food or sourcing particular ingredients needed to make the ethnic food. In the study of Verbeke & Lopez (2005), similar results were found when studying Hispanics living in Belgium, 57.5% of the participants stated that cooking their cultural food was much more time-consuming than cooking the Belgium alternatives and this was reflected in the findings of this study.

Upon analysis, the second most reoccurring factor was the influence of finances. In the study by Deliens et al. (2014), which examined the eating behaviours of students fast-food and takeaway was considered a cheaper alternative to home cooked meals, however in the case of this study the opposite result was found, the participants were more reluctant to spend on fast food than to prepare home cooked meals as cooking was seen as the cheaper alternative.

397 Finance was also observed to influence changes in fruit and vegetable consumption. Previous  
398 research has suggested that the increased autonomy in students leads to unhealthy eating  
399 behaviour and is characterised by low intakes of fruit and vegetables (de Visser, Conroy,  
400 Davies, & Cooke, 2021; Kongsbak et al., 2016). The findings of de Visser et al. (2021), showed  
401 that the students failed to meet the recommended five portions of fruit and vegetables a day,  
402 which is a fundamental part of a healthy diet (World Health Organisation, 2016). In the case  
403 of this study, there was no general consensus with regards to fruit and vegetable intake,  
404 however this may be due to the fact that the participants were not asked to quantify the amount  
405 of fruit and vegetables they consumed. Discussion on fruit and vegetables was not provoked  
406 however, the participants included the topic of fruit and vegetables into their answers. For  
407 international students, a common factor included finance and accessibility to fruits and  
408 vegetables, the participants noted that some fruits and vegetables were more accessible and  
409 cheaper in the UK, when compared to their country of origin and this was the reason for  
410 differences in foods consumed, when residing away from home compared to when residing at  
411 home. However, in some cases the opposite result was observed, access to particular fruits and  
412 vegetables were more feasible in their country of origin and this in turn would lead to changes  
413 in the variation and amounts of fruit and vegetables consumed when living away from home.

414 Similar to the findings of previous literature, the multi-dimensional nature of eating behaviour  
415 creates a complex framework to the eating behaviours of students (Llanaj, Ádány, Lachat, &  
416 D'Haese, 2018; Neslişah & Emine, 2011) and in the case of this study, one's eating behaviour  
417 cannot be attributed to one specific factor, the factors operate simultaneously. A common  
418 finding when analysing the textual data was that factors within the themes of social,  
419 environmental, individual and university life, all influenced the student's food choice regarding  
420 cooking and consuming cultural food. Dietary enculturation was more apparent in students who  
421 reported having a social support network, in terms of cooking. This was because ethnic food

was deemed too time demanding, therefore by sharing the load ethnic foods could be consumed without significantly influencing university life.

Food preference and palatability is suggested to be instilled from childhood (Russell et al., 2015) and progresses into adolescents and adulthood (Oemichen & Smith, 2016). The results of this study did suggest that food preferences and palatability was a determining factor in the students eating behaviour particularly with regards to cultural food. In the case of dietary enculturation, the students showed a preference towards foods consumed at home, however, for some students, culinary skills and accessibility served as a barrier to making and consuming ethnic food whilst at university. Notably, Engler-Stringer (2010), discussed the influence of culinary skills and food knowledge and how this can greatly influence food choice.

Secondly, food preference was tied to the feeling of comfort; the students often referenced comfort when discussing the reasons for practicing dietary enculturation. This element reflects the knowledge in current literature, as research has established a relationship between food and drink and how food can evoke emotional, cognitive and physical recollections (Stone, Soulard, Migacz, & Wolf, 2017).

Essentially, the diets of BAME home students and International are complex and the influence of culture is prominent despite increased autonomy. However, for the majority, the student's food choice was skewed more towards dietary acculturation. In some cases the participants quantified their subjective standpoint with regards to whether their food habits reflected more dietary enculturation or dietary acculturation.



### 4.3 Determinants of Eating Behaviour: Living at Home.

A comparison between Fig 2 and Fig 3, suggests the students have more determinants influencing their eating behaviours when living away from home compared to when living at home and this may be due to the increased autonomy associated with student life. The greatest difference between factors influencing the dietary behaviour of the students observed when living away from home juxtaposed to when living at home was that the determinants of eating behaviour was skewed towards intrapersonal factors, such as culinary skills, mood, motivation to cook, self-discipline and compromising with university life. However, when living at home, the most dominant influencer was social factors, which includes having a social support network (parental influence). Similar to previous literature, studies have reported that food provisions, for young adults who live at home are primarily governed by parental control (Papadaki, Hondros, Scott, & Kapsokefalou, 2007; Riddell, Ang, Keast, & Hunter, 2011) . Moreover, the findings showed that living at home was also characterised by presenting more dietary enculturation eating habits; the participants suggested that ethnic food was more commonly eaten as result of parental influence.

The term food neophobia has gained popularity in literature, particularly in association with the dietary behaviours of international students (Edwards, Hartwell, & Brown, 2010; Schnettler et al., 2017), however no studies have been conducted regarding food neophobia and BAME students. The term food neophobia addresses the reluctance or avoidance of novel food (Mascarello et al., 2020) and in the study by Edwards et al. (2010), Asian students were significantly more food neophobic when compared to their European peers, however, interestingly over time both groups were found to become more neophobic. In the case of this study, participants were asked about their dietary habits on one occasion. Therefore, the results of this study only address a snapshot in time and mainly address the student's dietary habits during the breaks from university. Our results also showed a tendency of food neophilia - the

willingness to try new food (Okumus, Dedeoğlu, & Shi, 2021) – particularly when living away from home, students reported more opportunity to try new foods as they were only cooking for themselves; this was applicable to both BAME home students and international students.

However, when living at home food neophobia was more common as food consumption was practiced in commensality. Therefore, parental food neophobia would influence the dietary habits of the students. Previous literature has associated age with acculturation; older immigrants are less likely to practice acculturation to the same degree as the younger generation, who arguably experience greater acculturative stress leading to greater intercultural competence (Gebregergis, Huang, & Hong, 2019).

#### **4.4 Dietary Acculturation and Dietary Enculturation**

As stated by Sobal et al. (2014), food choice is arguably as diverse as humans are individualistic and the variation in upbringing, prior knowledge, life experiences, physiology and culture all contribute to one's personal food system. In the case of BAME home students and International students, upbringing and childhood cultural socialisation plays a crucial role in shaping one's eating behaviour and instilling the child's heritage and cultural norms and values (Umaña-Taylor, Zeiders, & Updegraff, 2013). However, research has concluded that migration results in cultural change in the form of acculturation (Terragni, Garnweidner, Pettersen, & Mosdøl, 2014). Moreover, Sam & Berry (1997), suggested that acculturation was more of a multi-directional process; it involves both cultural acquisition and heritage retention (Alidu & Grunfeld, 2018; Berry, 2017). The results of this study reaffirmed this theory, that acculturation involves combining both cultural acquisition and heritage retention. In terms of the dietary behaviours of the students included in this study combining both cultural acquisition and heritage retention was a common finding.

Research on dietary enculturation and the influence of culture on diets of students is limited, however the results of this study found that culture, particularly retaining culture was a key aspect for BAME home students and international students. Dietary enculturation was more than just food preference, rather identity was a common sub-theme which arose when discussing consuming cultural and ethnic food. The study by Romo & Gil (2012), which examined ethnic identity and food consumption in Latin Americans that migrated to Spain, showed that consuming ethnic food played a role in culture expression and helped solidify one's identity as cultural food was affiliated with a collective conscience and a sense of belonging.

Essentially, both dietary enculturation and dietary acculturation were observed in BAME home students and international students. The general consensus between the participants was that more dietary acculturations practices were observed when living away from home. This was predominantly due to individual factors such a time and convenience, autonomy and accessibility. However, it can be noted that peer scrutiny was also a determinant. For some participants acculturative stress was placed from housemates who were not accustomed to ethnic food as thus the fear of judgement would influence the participants to present dietary acculturative eating habits.

Essentially this study, reaffirms the findings that dietary behaviour is highly complex and influenced by a plethora of factors. Moreover, with regards to culture, the influence of culture on diet is also a product of both cultural acquisition and heritage retention despite the increased autonomy during university term time. Both BAME and international students exhibit both dietary acculturation and alongside dietary enculturation. It can be deduced that food is heavily linked to the identity of ethnic minority students (Kittler, Sucher, & Nelms, 2016) and thus maintaining eating habits of one's cultural heritage is inevitable.

516

517 **4.5 Strengths and Limitations**

518 The use of a qualitative research methodology was advantageous because, as suggested by Sallis  
519 et al, (2006) qualitative research enables the researcher to understand more than just ‘what’ but  
520 also the ‘how’ and ‘why’ of the studied topic. In this case, the use of qualitative research  
521 enabled the participants to speak freely and in-depth regarding the factors that affect their  
522 eating behaviour, which in turn provides higher validity in the textual data obtained (Castell,  
523 Serra-Majem, & Ribas-Barba, 2015).

524 Given the current COVID-19 pandemic the use of qualitative research methods in the form of  
525 an online questionnaire and online interviews was advantageous as this created a scope to gain  
526 a larger study population; it enabled a study on a national scale. Moreover, by providing two  
527 forms of participation, either completing a questionnaire, or taking part in an online interview;  
528 this helped reduce the practical limitations of just using one method of data collection.

529 A limitation of this study was that due the participants being volunteers attention must be  
530 brought to the fact that the participants were interested in the studied area and the inclusion of  
531 the word culture in the title may have resulted in bias and the respondents may have  
532 exaggerated the weight, attached with the influence of culture on their eating behaviour.

533 Another limitation of this study was the cross-sectional nature of the study, conclusions on the  
534 dietary behaviour of the students were made on the basis of one interview or completing one  
535 questionnaire, which only reflects the participants current status of dietary enculturation and  
536 dietary acculturation. Participants were not asked specific questions on barriers of the  
537 challenges of eating healthfully based on their living conditions. Participants were not asked  
538 for additional details relating to where they lived or whether they lived by themselves or with  
539 room mates

## 5.1 Conclusions and Future Research

The intention of this study was to explore the factors influencing the dietary behaviour of BAME home students and international students using a qualitative approach. A broad range of factors were found to influence the eating behaviours of the students including, social factors, individual (intrapersonal) factors, physical environmental factors, university life, enculturation and acculturation. In terms of living away from home, the main dominant factors derived from intrapersonal factors and university life, factors such as time, accessibility and finance were the most reoccurring sub-themes discussed. However, in the case of living at home, social factors (such as social support, parental control, family preference) became the most determining factor influencing the dietary behaviours of the students.

The findings of this study suggest that dietary enculturation is a factor which influences the dietary behaviour of both international students and BAME home students. Ethnic food plays a fundamental role in affirming one's identity and despite increased autonomy during university term time, some students still practiced eating habits which reflect cultural acquisition. However, the overall practice with regards to culture was that both international students and BAME students were more accustomed to adopting western eating behaviours. Perhaps future research could involve a longitudinal study measuring the dietary habits of the BAME students across their academic journey to see whether dietary acculturation decreases or increases alongside the time spent with an increased amount of autonomy.

The study also reaffirms that food choice is arguably diverse as humans are individualistic and the variation in upbringing, knowledge, life experiences, physiology and culture all contribute to one's personal food system; therefore, the findings of this qualitative research cannot be projected to the general population. However, the results of this study should be considered as a contribution to understanding the underlying contributors which influence the eating

564 behaviours of minority ethnic groups and sojourning students, which can help educators and  
565 health professionals cater to the needs of minority groups and help them make healthier food  
566 choices.

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771 **Supplementary Material S1**772 **Eating Behaviour Questionnaire**

773 The aim of this questionnaire is to find out about your eating behaviour and habits when residing at  
774 home versus, your eating behaviour during university term time.

775 By completing this questionnaire you are consenting that you have read the participant information  
776 sheet and that you are happy for the research to include your answers anonymously in the study.

777 IF YOU WOULD LIKE TO PARTICIPATE IN AN INTERVIEW INSTEAD, OR TO FURTHER  
778 DEVELOP YOUR ANSWERS, please contact me on [f.mensah@2018.ljmu.ac.uk](mailto:f.mensah@2018.ljmu.ac.uk)

779 This questionnaire is split into 2 sections, Section A and B. Please can you answer ALL question  
780 as honestly as possible and in as much detail as possible. **\*Required**

781 Please answer all the questions.

782 **Section A**

783 1. Please specify your age \*

784 \_\_\_\_\_

785 2. Which university do you go to ? \*

786 \_\_\_\_\_

787 3. What is your year of study ? \*

788 *Mark only one oval.*

☒ 789 First year

☐ 790 Second Year

☒ 791 Final year

☐ 792 Post graduate

793 Masters

794 PhD

795 4. Are you an international student or a home student ? \*

796 *Mark only one oval.*

☒ 797 Home Student

☐ 798 International Student

799 5. In what country were you born ? \*

800 \_\_\_\_\_

801 6. Ethnic Background \*

802 *Mark only one oval.*

☒ 803 Mixed heritage

☐ 804 Asian or Asian British

☐ 805 Black or Black British

☐ 806 Arab

807 ☐ White

808 Other:

809 \_\_\_\_\_

810 7. What country do you identify with, with regards to ethnicity ? \*

811 \_\_\_\_\_

812 8. How long have you lived in the UK? \*

813 *Mark only one oval.*

☒ 814 Born in the UK

☐ 815 less than 1 year

☐ 816 1 - 2 years 3 -

☐ 817 5 years more

☐ 818 than 5 years

819 9. During university term time, where do you reside ? \*

820 *Mark only one oval.*

821 ☐ With immediate family

822 ☐ With extended family

823 ☐ Student accommodation

824 ☐ Private accommodation

825 Other: \_\_\_\_\_

## 826 Section B

Please complete this section in as much detail as possible

827 10. Please say something about your food selection during UNIVERSITY term time. \*

828 What type of food / meals do you eat ( please include names of meals for breakfast lunch and dinner )?

829 Who cooks ? Eat out often ? Make new meals? Eat cultural food? Please discuss elaborately

830 \_\_\_\_\_

831 \_\_\_\_\_

832 \_\_\_\_\_

833 \_\_\_\_\_

834 \_\_\_\_\_

835 11. Please say something about your food selection when at residing HOME. \*

836 What type of food / meals do you eat ( please include names of meals for breakfast lunch and dinner )? Who cooks ?

837 Eat out often ? Make new meals? Eat cultural food? Please discuss elaborately

838 \_\_\_\_\_

839 \_\_\_\_\_

840 \_\_\_\_\_

841 \_\_\_\_\_

842 \_\_\_\_\_

843 12. What are the important elements/aspects/ issues that affect your food choices in and  
844 around your UNIVERSITY residence? \*

845 e.g. access to shops / time / ability to cook / culture / your food preferences / . Please discuss elaborately.

846 \_\_\_\_\_

847 \_\_\_\_\_

848 \_\_\_\_\_

849 \_\_\_\_\_

850 \_\_\_\_\_

851 13. How influential is culture on your food intake in and around UNIVERSITY term  
852 time ? \*

853 Do you eat cultural food often/ not often / not at all ? Is it important to eat cultural food or not ? Prefer different  
854 foods or your cultural food? Does your diet include more NON-CULTURAL or CULTURAL foods ? Please  
855 discuss elaborately



856 \_\_\_\_\_

857 \_\_\_\_\_

858 \_\_\_\_\_

859 \_\_\_\_\_

860 \_\_\_\_\_

861 14. What elements / aspects / issues affect you eating traditional foods at your

862 UNIVERSITY residence ? \*

863 Please discuss elaborately

864 \_\_\_\_\_

865 \_\_\_\_\_

866 \_\_\_\_\_

867 \_\_\_\_\_

868 \_\_\_\_\_

869 15. What elements / aspects / issues affect you eating traditional foods when residing at

870 HOME ? \*

871 Please discuss elaborately

872 \_\_\_\_\_

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881      **Author Contributions:**

882      FZM designed and conducted the study and prepared the manuscript drafts. KEL  
883      contributed to study and manuscript scrutiny and formatting. LDR contributed to study  
884      design and scrutiny.

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886      commercial, or not-for-profit sectors.