

1 **Experiences of Fasting during Ramadan in British Muslims: Psychological, Social and**
2 **Health Behaviour**

3 **Abstract**

4 Ramadan is a month-long religious festival observed by Muslims worldwide, characterised by
5 intermittent fasting. This qualitative study addressed the need to understand how fasting is
6 experienced by Muslims residing in Western cultures, aiming to inform policies that create a
7 more supportive environment. Practicing Muslims, both men and women, were recruited in the
8 North of England in the United Kingdom (UK). Data were collected by individual interviews
9 (N=7) and focus group discussion and then analysed using Social Ecological Theory as a
10 framework. Fasting was managed at the individual level through instrumental food choice and
11 eating practices, and by adapting sleep routines. Disrupted sleep routines posed a challenge for
12 those who had to adhere to Western working schedules, leading to perceived detriments to
13 cognitive function and mood. The sense of belonging associated with Ramadan was seen as a
14 motivating factor for fasting. Breaking the fast (Iftar) was marked by social activity and the
15 availability of traditional fried foods. Participants identified the wider Western culture and
16 environment as challenging for those who are fasting. These findings imply a need for policies
17 that enable flexible working practices for Muslims during Ramadan.

18 **Key words:** Fasting; Food Choice; Psychology; Ramadan; Qualitative; SET; UK

19

20

21 **Introduction**

22 Ramadan is the Muslim month of fasting which occurs during the 9th Islamic month of a lunar
23 calendar. During this time, Muslims abstain from food and fluids (including water) from dawn
24 until sunset. In equatorial countries such as Kenya and Somalia, fasting can last up to 15 hours,
25 while in northern countries such as Iceland, fasting can last for up to 21 hours during the
26 summer months. This variation in latitude and daylight time can significantly impact how
27 people function during Ramadan. In the UK, where daylight hours are long in spring and
28 summer, where Muslims experience fasting periods of over 16 hours. With 6.5% of the United
29 Kingdom (UK) population identifying as Muslim, understanding the challenges they face while
30 observing Ramadan is essential ¹. Whilst UK Muslims have been fasting throughout the month
31 of Ramadan for many years, there is a lack of research investigating how they navigate these
32 challenges in a Western culture such as the UK.

33 Quantitative studies that have investigated the cognitive performance during Ramadan
34 have produced mixed results with some finding a decline in function ^{2, 3} and others indicating
35 no change ^{4, 5, 6}. Quantitative studies of mood while fasting during Ramadan appear more
36 consistent with some evidence for enhanced positive mood ^{4, 6, 7, 8} and reduced negative mood
37 ^{4, 6}. however, such studies need to be interpreted with caution, given the small samples
38 employed ^{4, 5, 6, 7}.

39 Together, this implies a need for in-depth qualitative research to capture peoples'
40 experiences of fasting and psychological functioning during Ramadan. Most existing
41 qualitative studies of the psychology of Ramadan fasting have focussed upon clinical patient
42 groups ^{2, 9, 10, 11, 12, 13} with only a few exploring psychological factors in Muslims practising
43 Ramadan in Western cultures ^{14, 15, 16}. One study suggests that Ramadan fasting in a
44 predominately Western culture can be associated with anxiety around eating and body image,

45 while other qualitative studies in non-clinical groups indicate perceived benefits for mood and
46 psychological wellbeing^{17, 18, 19}. Notably, no existing qualitative studies appear to have
47 examined perceived cognitive performance during Ramadan fasting. The few studies on in
48 non-patient groups imply that it enhances self-efficacy, enabling people to eat more healthily
49^{15, 19}. The little evidence on food choice during Ramadan suggests that although the calorific
50 content remains similar, the proportion of carbohydrates and protein increases while fat
51 decreases²⁰. The reasons for such changes remain unclear.

52 Social Ecological Theory (SET) examines the interplay between physical, social and
53 environmental factors upon a person's psychological wellbeing and their health behaviour and
54 holds that the greater the congruence/compatibility between the individual and the physical,
55 social and environmental context in which they function, the better their well-being²¹. For
56 Muslims in Western societies, a lack of congruence with their cultural and philosophical
57 backgrounds may impact their well-being. SET has been used to qualitatively analyse food
58 choice and eating behaviour in minority groups resident within various global regions^{22, 23, 24,}
59²⁵. This analysis has employed SET to understand the challenges encountered in observing
60 fasting during Ramadan and serves as a first step in designing intervention to raise awareness
61 around nutrition during Ramadan and to improve health and wellbeing among Muslims in the
62 UK.

63 Existing research highlights the importance of social factors in eating behaviour^{26, 27,}
64²⁸. and suggests perceived social benefits of Ramadan fasting^{11, 14, 15, 16, 18, 19, 29, 30}. Self-
65 Determination Theory (SDT) seeks to explain how social factors interact with motivation in
66 determining wellbeing within the social environment³¹. According to SDT, people are more
67 self-determined and motivated when they feel *competent* to master a behaviour, when they
68 experience *relatedness* to others and have *autonomy* to choose to act³¹. SDT has been
69 employed to analyse quantitative data on motivation and eating behaviour in different countries

70 and social contexts^{32,33} and to interpret qualitative data on dietary health topics²⁸. In this study,
71 SDT serves as a framework for understanding the influence of social factors in motivation to
72 fast during Ramadan.

73 It is important to understand experiences of Ramadan in Muslims residing in Western
74 cultures such as that in the UK, and how this is perceived to impact health, food choice, social
75 and psychological wellbeing and functioning, so that they can be better supported in observing
76 the practice of fasting and in functioning effectively. Fasting may be made more difficult where
77 societal practices are not adapted to take Ramadan into account. The aim of this research
78 therefore has been to build theory to inform intervention and policy to accommodate Ramadan
79 in the UK. Among the objectives will be to determine what (if any) adjustments are needed to
80 societal institutions (e.g. workplaces, education establishments) and other environments to
81 accommodate Ramadan so that those who are fasting during Ramadan are not disadvantaged.

82

83 **Methods**

84 *Ethical Approval*

85 Approval for the study was granted by the University of Bradford Humanities, Social and
86 Health Sciences Research Ethics Panel in January 2018. Title: Perspectives on British
87 Ramadan; Ethics Application Ref: E655.

88

89 *Design and Setting*

90 A qualitative approach was taken using semi-structured interviews and a focus group
91 discussion to provide a rich and detailed account of the experiences of Ramadan practices of
92 British Muslims. Sampling and data collection were conducted in Bradford, which is a city

93 located in the North of England, that has a multi-ethnic population in excess of 500,000 people,
94 of whom 30.5% in the district and 60% in the city identified as Muslim in the 2021 Census ³⁴.

95

96 *Sampling*

97 A purposive sampling approach was employed to obtain a range of perspectives on Ramadan.
98 For the interviews, we sought to recruit men and women of a range of adult age and
99 employment. A focus group was held in addition to the interviews to capture the group dynamic
100 associated with Ramadan and to establish data saturation. All focus group volunteers were
101 women to capture women's unique experience of fasting. Participants in the focus group were
102 younger women, who were students. This allowed us to examine whether similar themes arose
103 in a younger cohort and to explore how academic priorities, cognitive function and
104 mood influenced their fasting experiences. The inclusion of this group helped us confirm (or
105 otherwise) whether the findings that emerged in focus groups held in this younger population,
106 while also aiming for a holistic understanding of Ramadan fasting across life stages.

107 Inclusion criteria were being Muslim and having practiced fasting during Ramadan.
108 Exclusion criteria were being non-Muslim, under the age of 18 years, having been diagnosed
109 with a mental health condition, an eating disorder, a dietary health condition, a chronic or
110 terminal illness or being pregnant or breastfeeding. All participants identified as Muslim, had
111 lived in the UK for at least two years and had fasted during the 2019 month of Ramadan.

112

113 *Data Collection*

114 One to one interview and focus group discussions were chosen as suitable data collection tools
115 for the purpose of this study. An interview guide was developed by the research team using

116 open-ended questions to facilitate discussion. The start and end date of the recruitment period
117 for this study occurred from 01/02/2019 until 29/04/2019. Prior to and in addition to the seven
118 interviews analysed, three pilot interviews were conducted to determine the design and content
119 of the final topic guides for both the interview and focus group discussion (see appendices 1
120 and 2). These pilot interviews were not included in the final analysis as they were conducted
121 to refine the interview guide and methodology. The interview topic guide was adapted to tailor
122 the questions for the focus group discussion and to obtain consensus on themes arising from
123 the interviews. Participants were asked to sign a consent form and to provide demographic
124 information. Focus group participants signed a confidentiality agreement to not communicate
125 any information disclosed during discussion. Interviews and the focus group discussion took
126 place within a private room on the University campus. Data collection concluded after
127 saturation was reached following the completion of both the interviews and the focus group
128 discussion. While initial themes were identified through the interviews, the focus group
129 confirmed that no further themes emerged, thereby supporting data saturation.

130

131 *Reflexivity Note*

132 It is important to discuss the authors' positionality within the research study to ensure
133 transparency and credibility of the research process. The researcher who conducted the
134 interviews and moderated the focus group discussion held insider status (AL), was bi-lingual
135 in English and Urdu and a British Muslim woman of Pakistani heritage who resided in a town
136 peripheral to Bradford. One of the data analysts was of British Indian heritage and a practising
137 Muslim with a special interest in health inequalities. Both the researcher and data analyst, being
138 practising Muslims who fasted during Ramadan and shared a similar cultural and religious
139 background with the participants, likely influenced the sampling and enriched the quality of

140 the data collected. The other data analyst (BS-K) was a woman of Irish nationality with no
141 religious belief and a special interest in food psychology. Our similar and different positions
142 and knowledge that we brought to the research allowed us to question and verify each other's
143 interpretation of data.

144

145 *Data Analysis*

146 Individual interviews and the focus group discussion were audio recorded, transcribed verbatim
147 and anonymised. Data were analysed using reflexive thematic analysis ³⁵. There are four
148 essential steps in thematic analysis: familiarisation; initial thoughts, categories and themes;
149 core themes; and reviewing themes ³⁶. Themes were then organised using a deductive (theory-
150 driven) approach and agreed upon by all three researchers. The stages of analysis to establish
151 initial coding were aided by 'memo writing,' by which reflections on the interview, prompted
152 and unprompted themes, points of tension were recorded. This coding and memo-writing
153 process aided in the subsequent thematic analysis. Thematic analysis is considered a foundation
154 method for qualitative data analysis and is flexible enough to be incorporated into any
155 epistemological approach ³⁶. The thematic analysis was conducted by three researchers (AL;
156 BS-K; SI) who initially took an inductive (bottom-up/data driven) approach to generating
157 themes for ensuring credibility and trustworthiness in the findings. Once the themes were
158 generated, they were then organised according to the three pillars of SET (individual; social;
159 environment) for the purpose of interpretation (Tables 1-3). This method allowed the broad
160 SET domains to structure the themes, while the inductive coding informed the sub-themes
161 within each domain.

162

163 **Results**

164 ***Sample Description***

165 The interviewees (N=7) comprised four men aged 26-47 years and three women aged 22-46
166 years. Interviewees were Muslims who identified as British Asian (n=3), Pakistani (n=2), Arab
167 (n=1) and Bengali (n=1). Given the small sample and the risk of being identifiable, we have
168 not specified the occupation of interviewees, some of whom were employed within the
169 university. Interviews were semi-structured and lasted approximately 30-60 minutes. The focus
170 group discussion participants were women (n=4) aged 18-19 years, all of whom were students
171 and who identified as British Pakistani. Although the focus group participants were known to
172 each other as classmates they were not part of a pre-existing friendship group.

173

174 ***Main Themes***

175 Following inductive analysis, a deductive approach was taken to map the themes to reflect the
176 experience of Ramadan fasting using Social Ecological Theory (SET) ²¹ as a framework. The
177 constructs of the SET represent domains experienced at the individual level (Table 1), fasting
178 in the social context (Table 2) and the intersection of fasting with the wider environment (Table
179 3). Food and eating formed a major theme that cut across all four major domains. Whilst
180 individuals were concerned with managing fasting in daily life, Iftar (breaking the fast)
181 heralded the social side of Ramadan which was around the collective culture of feasting.
182 Experiences at the environmental level were concerned with fasting alongside a Western
183 culture (Figure 1). Main themes were organised into the three broad categories reflecting the
184 SET ‘individual’, ‘social’ and ‘environmental’ domains, each containing core themes and sub-
185 themes.

186 **Insert Figure 1 here**

187 ***Theme 1: Experience of Ramadan for the Individual***

188 Ramadan was viewed positively as a time for personal growth. Fasting was perceived as a
189 ‘*commitment*’ that was both physically and psychologically demanding (Table 1). Interviews
190 consistently referred to challenges in coping with such demands through altering sleep patterns
191 and food choices.

192 **Insert table 1 here**

193 *Cleansing and Discipline*

194 Ramadan was viewed as a period of spiritual growth, one of ‘*cleansing*’ ‘*detox*’ and ‘*renewal*’.
195 It was also considered a time of ‘*reflection*’ and to exercise ‘*discipline*’. Fasting allowed
196 individuals to contemplate the ‘*self*’, to review their behaviour and to become ‘*healthier*’ and
197 ‘*happier*’. At the same time, it was acknowledged that observing Ramadan could be
198 demanding, both physically and psychologically and especially given the wider Western
199 society that does not make any allowance for fasting.

200 *“When we live in the West erm it's difficult to balance your deen (religion) with what the*
201 *demands in the West are” (P3)*

202 Fasting was viewed as a commitment that required discipline.

203 *“It's a discipline and then you know that when you're fasting it's almost like erm you've made*
204 *a pledge and you don't want to break that pledge” (P7)*

205

206 *Altered Routine*

207 Ramadan involves intermittent fasting, traditionally broken at Iftar, after sunset, by eating
208 dates. Participants reported disruption to their daily sleep and eating routines, including staying
209 awake or waking up just before sunrise to eat Suhoor, the pre-dawn meal, in preparation for
210 the fast *“my routine is, I mean I open my fast with dates” (P3) “so I have my date first, then I'll have*

211 *my water”* (P5). Some reported not eating at all, thus extending their fasting period *“I just didn't*
212 *eat anything”* (P2).

213

214 *Attention, Mood*

215 Altered routines were spontaneously referred to in describing experiences of fasting, eating,
216 and sleep with references to becoming *‘nocturnal’* and having as little as *‘three hours a night’*
217 sleep. Psychological challenges encountered when fasting were attributed to disrupted sleep
218 and perceived to impact upon ability to function with reports of having to work more slowly
219 and to repeat tasks.

220 *“I'd have to go through it like a couple of times in different ways to actually get it into my*
221 *head”* (P1)

222 Reported negative impacts of fasting were focussed upon attention, which was considered the
223 most affected cognitive function (Table 1), and which compelled one person to abandon the
224 fast to cope with exams.

225 *“It led to the point where I had to stop fasting because I could not concentrate on my exams”*
226 (P3)

227 Participants experienced tiredness and low mood, with reports of feeling irritable and angry *‘I*
228 *remember being very angry”* (P7). Through conserving energy and making healthier food choices,
229 they felt able to boost energy and manage negative impacts of fasting.

230 *“Well, you try to, you make healthy choices because you want to erm preserve your energy*
231 *and everything”* (P7)

232

233 *Food Choice and Instrumental Eating*

234 Having first opened their fast with dates, the types of food selected fell into three broad
235 categories, the major food group being fruit, while other food groups mentioned were foods
236 referred to as *'healthy'* and traditional *'fried'* foods. All participants mentioned selecting fruit
237 when opening their fast *"I eat a lot more fruit"*. While some then consumed a typical Western
238 breakfast *"So maybe some porridge or Weetabix or, bananas"* (P1) or *"some bread, eggs"* (P7), others
239 chose typically South Asian foods *"have like the paratha (fried chapati) in the morning"* (P5).

240 Iftar, the breaking of the fast at sunset, is traditionally marked with the consumption of fried
241 foods such as *'samosas'*, *'kebab'* and *'paratha'* which were considered traditional during
242 Ramadan, characteristic of South Asian food culture and symbolic of social eating. Eating
243 *'light'* was a major theme, as was eating *'heavy'*. In practice, food choices tended to be a blend
244 of British and South Asian foods including traditional *'heavier'* fried foods along with lighter
245 *'grilled'* food and *'fruit'*.

246 *"Like I might grill a small piece of fish or something ... which is still a light meal"* (P3)

247 *"Fried food I guess and erm a lot of fruit"* (P8)

248 Narratives implied that people were eating instrumentally to manage their fast so that they
249 could function physically and psychologically despite disrupted sleep and eating routine amidst
250 a Western society. Instrumental eating was a major sub-theme, the practice of which was
251 informed by past experiences of fasting (Table 1). Food choices were directed towards
252 controlling *'sugar levels'*, avoiding *'aches and pains'* and *'preserving energy'*. Choosing lighter
253 foods, for example, was framed as a way of avoiding fatigue and keeping active.

254 *"What I've found is before when I used to fast, I just used to eat oily foods and crap. So as soon
255 as you'd eat, I'd just sit and I'd feel bloated out and that I couldn't move. So now what I've sort
256 of done with my meals is I'll have salmon and veg or grilled chicken and veg"* (P5)

257 There were reports of food cravings “*I get really strong cravings throughout the day*” (P6)
258 particularly for heavier high-energy foods.

259 “*But during the day I’ll be like I want chocolate cake, I want a cheesecake I don’t think I*
260 *crave as much on normal days as I do in Ramadan*” (P5)

261 Reports referred to increases body weight which were attributed to the disrupted routine (Table
262 1).

263

264 ***Theme 2: Experience of Ramadan in the Social Context***

265 Ramadan was experienced as a time of heightened social connectivity which brought about a
266 sense of relatedness that was perceived to enhance motivation and the ability to fast (Table 2).

267 Social activity, however, was also perceived as a driver of less healthy ‘*heavy*’ food choices.

268 **Insert table 2 here**

269 *Relationships and Communality*

270 Heightened social activity was considered an opportunity to connect with like-minded people
271 and to improve and realise the value of relationships. Ramadan afforded the individual to be
272 part of a wider collective movement around fasting and food-related activity “*it’s a group thing,*
273 *isn’t it*” and was associated with ‘*starting afresh*’ with relationships, a time for forgiveness and
274 an opportunity to ‘*wipe the slate clean*’. There was the expectation that everyone was fasting and
275 the notion that fasting would be difficult without the social support ‘*it’s hard when you’re not*
276 *doing it with everyone*’. It was emphasised that although fasting was an ‘*obligation*’ and that they
277 ‘*don’t really have a choice*’, it was an activity that they elected to engage with and was ‘*not to be*
278 *missed*’. The social context of fasting was perceived to motivate the choice to fast and increase
279 motivation to observe the practice. The experience of relatedness, along with a sense of

280 autonomy and socially enhanced competence, together, appeared to exert a potent influence,
281 even among those who claimed to be less religious.

282 *“you know I wouldn’t say I was really religious but erm, I think erm fasting I, I just [pause] I*
283 *don’t want to miss fasting so, yeah” (P2)*

284 Although a social activity, there were also reports of being quiet and ‘less talking’ while fasting
285 (Table 2).

286

287 *Sharing Food and Autonomy*

288 Fasting is traditionally followed by Iftar, which commences at sundown and is characterised
289 by social activity around the sharing of traditional fried foods which were considered ‘not very
290 healthy at all really’, but which people felt obliged to eat when they were offered.

291 *“I didn’t eat any fried food at all but when I did go to my friend’s house, if they’ve had fried*
292 *food then I would eat it” (P7)*

293 Food choices were also determined by household composition. Contrasting views reflected
294 living arrangements, whereby those living alone or cooking own meals considered themselves
295 to have greater autonomy of food choice and to be selecting ‘healthier’ options.

296 *“Because I don’t live with my parents, I don’t live with anyone, I live on my own. So a... I’ve*
297 *got that advantage, b: I’m not really spending time in the kitchen I don’t really. I’m a bit lazy*
298 *actually so I don’t really tend to cook. Or maybe if I do something I try to eat very healthy kind*
299 *of tuna or maybe sandwiches” (P5)*

300

301 *Gender and the Experience of Ramadan*

302 There was consensus that a ‘Ramadan cook’ was a woman and some suggestion that fasting
303 may be experienced differently by men and women. The preparation of food following Iftar
304 was considered the domain of women.

305 *“Erm, I think my family, my wife and my mum in particular pay more attention to what*
306 *we're eating and a lot of my friends and you know, extended family do the same. Erm, I don't*
307 *get away with that, the wife don't let me get away with that, so I have to go home, I have to help*
308 *with the kids, I help with the cooking, go shopping whatever” (P3)*

309 Others considered fasting to be more difficult for women because their roles involved cooking
310 and preparing food for the family.

311 *“I think it's harder for women because if you think about it women have to make the food” (P8)*

312

313 ***Theme 3. Experience of Ramadan in a Western Culture and Environment***

314 There was much dialogue on the challenges faced in fasting while being part of a culture that
315 does not recognise the practice (Table 3). Subthemes were concerned with adapting, cultural
316 exchange and the need for policies to enable flexible working and educational practices during
317 the fast.

318 **Insert table 3 here**

319 *Western Culture and Climate*

320 As fasting occurs during daylight, in the UK it can last between 16-18 hours. A major concern
321 was dehydration, especially when Ramadan falls in the summer. Hydration was achieved
322 through avoidance of caffeinated beverages *“I completely ignore coffee ... don't drink any sort of*
323 *tea or anything like that” (P4)* and by drinking plenty of water and fluids prior to fasting.

324 *“I used to drink a lot of water before I went to sleep or try get up er, erm and drink some water,*
325 *drink a glass of water” (P2)*

326 British Ramadan food choices were considered healthier than those consumed in predominately
327 Islamic countries.

328 *“So, when I go to back home for erm for Ramadan, I see that it was the complete opposite where*
329 *you'd have SO much food on the table and so many different types of like rice and like and like*
330 *everything. Like people would eat a lot more in Ramadan and actually people would put on*
331 *weight and be more unhealthy but, I feel like over here people are a bit more conscious about*
332 *that” (P6)*

333 Reference was made to a ‘*new generation of modern British Muslims*’ who experience difficulties
334 in observing the fast and would welcome some adjustment to work and study routines to bring
335 them into line with the light/dark cycle of the northern hemisphere (Table 3).

336

337 *Cultural Exchange*

338 There was emphasis upon the need for communication and cultural exchange to enable Western
339 society to accommodate the practice of Ramadan (Table 3). There was also awareness of the
340 need to adapt to the Western environment and society and to accept British tradition and laws.

341 *“We live in a country where we have to recognise the laws and regulations of the country and*
342 *I'm talking as a solicitor now, the laws and regulations of the country are paramount. We can't*
343 *break those laws and regulation, so our deen has to fit in. We can't just say this is our deen and*
344 *so whichever laws we want from the UK we'll adapt. No, we have to adapt to these laws before*
345 *we consider those laws. So, the fact of the matter is that we have to learn to integrate and*
346 *psychologically, we have to accept where we are” (P3)*

347

348 *Impact of Fasting upon Work/Education*

349 Participants identified not only as Muslims, but also as citizens with professional roles in UK
350 society, and this was reflected in an expressed need for greater communication on Ramadan
351 practices. People reported adapting and making changes to their work routine including
352 booking holiday leave to coincide with the fasting. Suggested adjustments included the timing
353 of breaks and greater flexible working (Table 3). There was praise where there had been
354 communication and some adaptation within the workplace.

355 *“Where I'm working where I work there was erm the chaplains of other religion they all got*
356 *together. They organised a lecture about erm Ramadan and everything which was really, really*
357 *good” (P7)*

358 Participants felt that because Ramadan is becoming a more widely known tradition, non-
359 Muslim colleagues were more aware of practices and will provide dates and water to those who
360 were fasting.

361 *“few things that the chief nurse did where I'm working like provide dates and water” (P7)*

362 Fasting Muslims intersected with non-fasting non-Muslim people daily where there could be
363 some friction, for example, where breaks were timed to coincide with Iftar *‘it wasn't very*
364 *welcomed by other staff’*. There was the perception that *‘nobody's tackled the problems’* and an
365 imperative for *‘better understanding’* to enable greater accommodation to food and fast-related
366 practices. On a positive note, there was a perceived opportunity to communicate with wider
367 society on the ethos of Ramadan and raise awareness of practices among UK citizens *‘people*
368 *are quite interested’*.

369 Questions about education and the potential difficulty in taking exams during Ramadan,
370 elicited contrasting views. The topic of exams arose initially in the interviews (2, 3, 6) (table 3) and
371 was therefore included in the topic list for the focus group discussion so that we could delve
372 deeper into the cognitive and affective aspects. The student group were deemed to be qualified

373 to better inform us on cognition and fasting. On one hand, there was some reluctance,
374 particularly among male participants, to back changes to exam timetables to accommodate
375 Ramadan around the light-dark cycle and fasting.

376 *“If Ramadan happens to fall during May, er when most, April or May, and obviously next year*
377 *they'll probably be, most of the exams will fall in Ramadan. Then, erm [pause] I, I don't think*
378 *that there's a need to change, erm policy around that” (P1)*

379 Women expressed difficulty in accommodating fasting within education and unlike the men, held
380 aspirations for future change to accommodate Ramadan in UK society and stressed the need for policies
381 directed toward accommodating education/exams during fasting.

382 *“At the same time government does not have or maybe does not exercise sort of policies for the*
383 *students during Ramadan. So, examinations, they can conduct outside Ramadan period, but*
384 *they don't do it because there's no policies as such. So erm they could be more accommodating,*
385 *but erm in my own personal opinion, you have to lobby the government” (P5)*

386 Themes related to the environmental context referred to difficulties encountered in keeping the spirit of
387 Ramadan alive throughout the year.

388 *“Unfortunately, because of the society we live in and the environment that we live in, er it's so,*
389 *it kind of, erm people just kind of, the effect kind of fades away” (P1)*

390 There was also optimism and perceived readiness for greater integration of Muslims into UK
391 society.

392 *“Yeah, I think, I think there's been a lot of integration. If you come into Bradford in particular,*
393 *you go into any environment you see white, black, brown, every colour of skin working together.*
394 *It's, it's irrelevant what our background, our faith is. People are working together” (P3)*

395

396 **Discussion**

397 This research sought to capture and gain insight into perceptions and experiences of fasting
398 during Ramadan in UK resident Muslims. The purpose has been to inform the design of
399 culturally appropriate interventions and policies to facilitate the practice of fasting during
400 Ramadan. Social ecological theory (SET), which has been applied previously in dietary health
401 behaviour research ²², has been employed as a framework through which to view potential
402 intervention.

403 As expected, given previous qualitative research in people living with diabetes through
404 Ramadan ^{17, 18, 19}, accounts of fasting were steeped in spirituality alongside notions of
405 discipline, cleansing and renewal, all of which were considered important to psychological
406 wellbeing. At the individual level, practices around fasting were perceived to alter sleep and
407 eating patterns. According to SET this disruption to routine in order to accommodate fasting
408 could represent a lack of congruity between the individual and the wider context in which they
409 operate, which could have consequences for lifestyle choices, psychological function and
410 wellbeing that require policy-level intervention.

411 Although existing evidence for cognitive change during Ramadan fasting is mixed with
412 many studies indicating no cognitive deficit ^{4, 5, 6, 37}, participants in our study unanimously
413 referred to impaired attention. This could be because our participants, unlike those in many
414 previous studies, were observing Ramadan in a Western culture where they had to cope with
415 everyday life and work despite disrupted routines. This perceived cognitive deficit is in keeping
416 with findings from previous quantitative research ^{2, 3} and indicates a need for interventions that
417 accommodate and enable Muslims to practice fasting and to function in Western societies.
418 Educational institutions could timetable exams to occur earlier in the day when any effects of
419 fasting may be less acute. Employers could enable flexible working as far as possible during
420 Ramadan and schedule breaks at points during the day to enable Muslim workers to manage
421 their fast and any associated fatigue and to accommodate Sudhar and Iftar. Our participants

422 who worked in mainly administrative roles felt their employer would be amenable to flexible
423 working practices. Those who worked in health sector saw potential for the adjustment of shifts
424 around fasting. Further research is required to better understand the potential for flexibility in
425 other job roles.

426 Participants reported mood changes and increased feelings of fatigue. While evidence
427 for mood alterations during Ramadan is mixed, our findings align with quantitative research
428 ³⁷, showing some detriment to mood but contrast with studies reporting improvement in mood
429 ^{6, 7, 8}. Previous quantitative research, however, should be interpreted with caution given the
430 small samples employed ^{6, 7} highlighting the need for further investigation. Further research is
431 required to determine the degree to which experiences of mood during fasting reflect sex
432 differences, the environment, socio-cultural factors and/or different instrumental dietary
433 practices employed to manage the fast.

434 Similar to existing qualitative studies of fasting during Ramadan ^{15, 19}, our participants
435 engaged in spontaneous discussion about dietary practices and healthy eating during Ramadan.
436 A novel finding was the consistent mention of instrumental eating practices directed toward
437 controlling blood sugar levels, combatting fatigue, enhancing cognitive function, stabilising
438 mood and preventing stomach cramps. Instrumental eating arose as a theme in interviews with
439 both genders. Participants commonly chose lighter foods, opting for more fruit and less fried
440 food. Consistent with previous qualitative enquiry into body image in UK resident Muslim
441 women ¹⁵ (Hasan et al., 2021), our participants experienced conflict between traditional and
442 Western cultures. While they were provided with ‘heavy’ traditional fried foods, in making
443 instrumental food choices they expressed a preference for ‘lite’ non-traditional foods to manage
444 their fast. Although some discussed weight gain and loss, unlike other qualitative research
445 findings ¹⁵, there was little evidence of heightened anxiety around body image during fasting.

446 Previous qualitative studies highlight the social benefits of Ramadan fasting^{14, 15, 16, 30}.
447 Participants in our study also valued sharing food, which renewed and enhance feelings of
448 connectedness. While existing research emphasises the importance of social support to promote
449 eating healthy eating and dietary behaviour changes^{26, 27, 28, 26, 32}. In contrast with previous
450 qualitative research conducted in Bradford^{38, 39}, some participants perceived family and social
451 norms to govern food choices could limit their autonomy in making food choices during
452 Ramadan. SDT assumes that social activity is highly motivating for behaviour particularly for
453 fostering a sense of relatedness, competence and autonomy³¹. According to SDT, social
454 influence that coexists with perceived competence and autonomy can lead to higher intrinsic
455 motivation which has been linked to better dietary quality^{32, 33}. Collective fasting was
456 perceived to bring about a greater sense of belonging and SDT would imply that this enhanced
457 sense of relatedness is probably an important driver of adherence to the fasting tradition. It is
458 therefore likely that the social connectivity experienced during Ramadan enhances perceived
459 competency to fast. SDT also acknowledges the role of autonomy in adherence to a behaviour.
460 Participants emphasised that although fasting was an '*obligation*' and that they '*don't really have*
461 '*a choice*', it was an activity with which they chose to engage. They expressed gratitude for
462 traditional fried foods offered at gatherings, yet this conflicted with their desire for lighter
463 options to manage fasting challenges. According to SDT, limited autonomy in food choices
464 may decrease the consumption of heavier foods, underscoring the importance of relatedness
465 and competence in adhering to fasting.

466 Having conducted semi-structured interviews, as part of our aim to confirm data
467 saturation, we included a focus group of British Pakistani women, who were younger (aged 18-
468 19), to explore whether similar themes would emerge from this demographic and to ensure that
469 the theory developed applied across different age groups. While there were commonalities with
470 older participants, such as the spiritual and communal aspects of fasting, younger participants

471 emphasised challenges related to studying during Ramadan. This difference reflects how age
472 and educational responsibilities may shape fasting experiences and confirms the value of
473 considering diverse perspectives to develop a holistic understanding of Ramadan fasting. These
474 findings suggest that younger participants, particularly students, might benefit from
475 interventions or policies that accommodate their unique needs during Ramadan.

476 At the environmental level, a new generation of modern British Muslims was reflected
477 in diverse perspectives on Ramadan fasting in the UK. While recognising the challenge of the
478 wider societal culture, some took a more traditional ‘no-help needed’ attitude, others argued a
479 case for greater flexibility within the workplace and the education system and emphasised the
480 importance of studying for British Muslim students. These contrasting perspectives highlighted
481 a point of tension around Ramadan and Western culture ^{9, 15} indicating a need for better
482 communication, within societal institutions and through a range of media, with non-Muslims
483 on Ramadan fasting. Given that Muslims often work as part of multi-faith teams, SDT would
484 imply that the apparent lack of congruence between Ramadan practices and the wider
485 (Western) social and environmental context (with resultant disruption to routines and potential
486 associated psychological deficit), indicates that the timing of practices linked to Ramadan
487 should be considered when adapting learning and workplace schedules to better accommodate
488 Ramadan.

489

490 *Strengths and Limitations*

491 Consistent with the SET framework that advocates the employment of diverse methodologies
492 ²¹, a combination of individual interviews and an additional focus group discussion has been
493 employed to capture individual and group (normative) perspectives on fasting during Ramadan.
494 While this study has produced rich data on a range of issues for potential intervention, one of

495 the limitations of this study is the relatively small sample size, even by qualitative research
496 standards, which renders the findings difficult to generalise to the wider UK Muslim
497 community. While we were able to reach saturation with both interview and focus group
498 participants, the recruitment process was challenging which may partly explain why this
499 population has been under-researched. Difficulty in recruitment highlights the need for further
500 research in this area to better understand the diverse experiences within this population. Despite
501 the small sample size, the themes identified were consistent across participants, providing a
502 solid foundation for further investigation. That many participants were young women could
503 also be considered a potential study limitation.

504 Another potential limitation of our study is that all interviews were conducted during a
505 summer Ramadan, when fasting hours are longer owing to extended daylight hours. This may
506 impact the participants' experiences, such as feelings of fatigue, hydration challenges, and
507 disruption to routine. Fasting during winter months, when daylight hours are significantly
508 shorter, could result in a very different experience, with potentially less physical strain and
509 altered routines. Owing to the lunar nature of the Islamic calendar, Ramadan shifts across
510 different seasons over a 33-year cycle, meaning that it takes approximately 10 years for
511 Ramadan to move from summer to winter. Future studies could explore these seasonal
512 differences by capturing experiences during a winter Ramadan to compare the impacts on daily
513 routines and overall health. The findings also highlight the need for controlled quantitative
514 research into the affective, cognitive and social aspects of intermittent fasting and how they
515 affect functioning. There was some suggestion that experiences of fasting may be gendered
516 and although this could be because the sample comprised more women than men, implies a
517 need for further study of gender differences in the experience of fasting during Ramadan.

518

519 *Policy Implications*

520 Our participants perceived a readiness among the UK society to engage with Muslims on
521 Ramadan and for cultural exchange and a need for policies to render the practice of fasting
522 during Ramadan less difficult for those living in the UK. Meta synthesis of qualitative studies
523 (N=11) of people living with diabetes during Ramadan ¹⁹ (Liao et al., 2020) has also
524 emphasised the need to increase societal understanding of Ramadan fasting. There was
525 acknowledgement of the need for national policies on Ramadan to enable workplaces and
526 education establishments to adapt to related religious practices. There is also a perceived need
527 for increased cultural competency across workplace organisations and educational institutions
528 with a focus on shared decision making to meet the cultural needs of Muslims observing
529 Ramadan ⁴⁰ (Myers et al, 2019). This would help to create a more equal society in which
530 Muslim people are accommodated during Ramadan.

531 According to SET, effective policy should operate at the individual, social/community
532 and organisational/environmental domains and integrate active and passive initiatives ²¹
533 (Stokels, 1996). Further and higher educational establishments could adjust assessment
534 schedules during Ramadan to accommodate fasting and employers could facilitate flexible
535 working to assist practicing Muslim workers in managing their fast. Raising awareness and
536 understanding of Ramadan among non-Muslims in wider society and education on what it
537 means for Muslim people, would further support them in their fasting. Integration of Ramadan
538 into the national social calendar and statutory public holiday entitlement would pave the way
539 for more specific recommendations.

540

541 **Conclusion**

542 This appears to be one of the first qualitative studies to have considered experiences of
543 intermittent fasting associated with Ramadan in a non-clinical sample residing in a northern
544 hemisphere-based, Western culture. Our data indicate that fasting during Ramadan is imbedded
545 within and perceived to impact upon all aspects of everyday life. SET holds that individual
546 wellbeing is maximised (and discomfort minimised) when there is cohesion between
547 biological, behavioural and socio-cultural needs and the environmental context including the
548 structures and resources available to them²¹ (Stokels, 1996). Responses indicated a perceived
549 lack of congruence (points of tension) between the Muslim person observing the tradition of
550 fasting during Ramadan and the wider UK environment. This implies a need for interventions
551 and policies so that Muslims feel more supported during the month of Ramadan. These findings
552 may also have implications for the design of culturally appropriate strategies for food and
553 lifestyle interventions for preventing non-communicable disease⁴⁰ (Iqbal, 2023b). Meanwhile,
554 this research has identified areas at the individual, social and environmental levels that require
555 more specific support structures and policies put in place to accommodate people who practice
556 the UK's second most prevalent religion.

557

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560

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