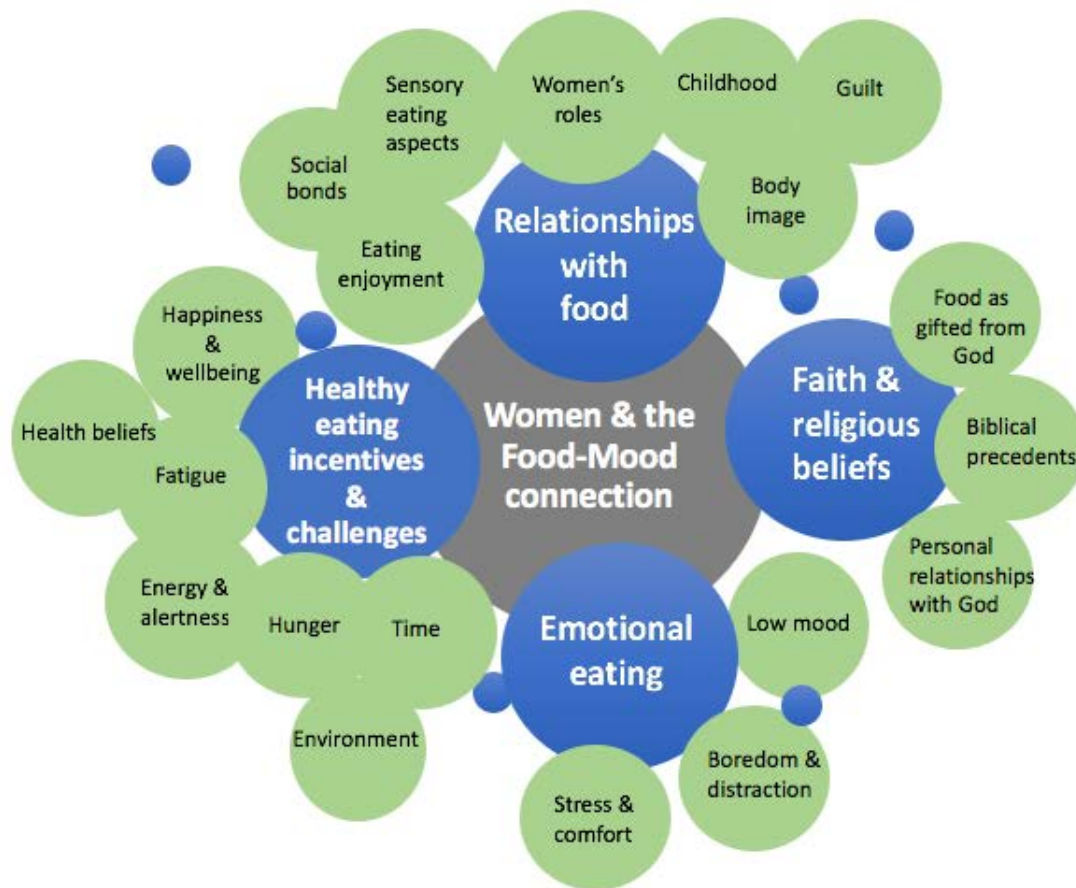


## Food and Mood: Exploring the determinants of food choices and the effects of food consumption on mood among women in Inner London



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## Abstract

**Introduction:** The aim of this study was to explore the relationship between food and mood against the backdrop of increased mental health and nutrition cognizance within public health and scientific discourses. Mood was defined as encompassing positive or negative affect.

**Methodology:** A constructionist qualitative approach underpinned this study. Convenience sampling in two faith-based settings was utilised for recruiting participants, who were aged 19-80 (median,48) years. In total 22 Christian women were included in the research, eighteen were in focus groups and four were in individual semi structured interviews. All were church-attending women in inner London. A thematic analysis was carried out, resulting in four central themes relating to food choice and food-induced mood states.

**Findings:** Women identified a number of internal and external factors as influencing their food choices and the effect of food intake on their moods. Food choice was influenced by mood; mood was influenced by food choice. Low mood was associated with unhealthy food consumption, apparent addiction to certain foods and overeating. Improved mood was associated with more healthy eating and eating in social and familial settings.

**Discussion:** Findings indicate food and mood are interconnected through a complex web of factors, as women respond to individual, environmental, cultural and social cues. Targeting socio-cultural and environmental influences and developing supportive public health services, via faith-based or community-based institutions could help to support more women in their struggle to manage the food and mood continuum. Successful implementation of health policies that recognise the psychological and social determinants of food choice and the effect of food consumption on mood, is essential, as is as more research into life-cycle causal factors linking food choice to mood.

**Keywords:** food choice mood women mental health wellbeing

## Introduction

The connection between food, nutrients and brain function is a developing area of interest within nutrition and mental health research (Sarris *et al.*, 2015). While neural mechanisms underpinning connections between mood and diet are not fully understood, research indicates that poor diets are risk factors for depression and other psychological disorders (Akbaraly *et al.*, 2009), whereas healthy eating habits have been linked to mental health benefits (Conner *et al.*, 2017). Early scientific evidence identified a link between nutrition and brain function (Biggio *et al.*, 1974; Fernstrom and Wurtman, 1974), and the presence of strong associations between nutritional quality and mental health (Sarris *et al.*, 2015).

Mood and emotions are distinct from one another and yet interconnected, as denoted in a range of theoretical perspectives (Beedie *et al.*, 2005). For the purposes of this research, 'mood' provides an umbrella concept that captures "the two primary dimensions of mood-Positive and Negative Affect" (Watson *et al.*, 1988, p1069).

The psychological determinants of food choice haven been linked to both transitory and protracted mood states, while dietary intake of specific nutrients are understood to influence biological processes relating to cognition, emotion and behaviour. Some studies suggest that mood-state is both a precursor and an outcome of food experiences (Gibson, 2006). Thus, determining beginning and end points of the temporal food and mood cycle can be difficult to distinguish, though it has been suggested that foods may instigate the cycle (Hendy *et al.*, 2012; White *et al.*, 2013).

### *The effect of mood on dietary intake*

Basic biological and physiological needs fuel food intake through provision of calories and nutrients needed to function and to balance hunger and satiety signals, yet a range of factors are implicated in food choice. Studies have examined the link between food choice and complex neurocircuitry, implicating hormonal mechanisms, chronic stress, cognitive load, and hedonic sensory processes (Schellekens *et al.*, 2012; Klatzkin *et al.*, 2018; Shiv and Fedorikhin, 1999; Ward & Mann, 2000; Moore and Bovell, 2008). Dietary choice may be influenced by positive or negative mood states, including complex internal individual cues which may signify associations of reward and deprivation (Gardner *et al.*, 2014; Singh, 2014). External factors including social and environmental opportunities may perpetuate these cues. Positive affect has been linked to social experiences of eating while isolated consumption has been associated with loneliness and comfort eating (Oxford Economics and the National Centre for Social Research, 2018; Locher *et al.*, 2005). Low mood is also closely linked to low energy and tiredness (Garrosa *et al.*, 2008), prompting food selections to provide 'highs', thereby implicating cravings for foods that stimulate mood activating dopamine neurons of addiction and reward (De Macedo *et al.*, 2016). Active pleasure-seeking behaviours to reduce negative states (Freud, 1920) or avoidance distraction (Spoor *et al.*, 2017) can fuel unconscious and conscious eating patterns to mitigate negative affect, and often involve sweet or fatty products (Evers *et al.*, 2010; Tomiyama *et al.*, 2011). Innate preferences for sweet taste (Keskitalo *et al.*, 2007) and palatable foods (Yeomans *et al.*, 2004) are reinforced by childhood and learned experiences (De Cosmi *et al.*, 2017), while social constructions and marketing forces promoting food as 'reward', 'comforting' 'stress relieving', and 'indulgent' can strengthen these emotional signals (Locher *et al.*, 2005). Using foods high in fats and sugars as coping strategies is linked to detrimental psychological and physiological effects, and short-term mood 'boosts' can result in subsequent prolonged low-mood state (Freeman and Gil, 2004; Kiecolt-Glaser, 2010).

### *The effect of dietary intake on mood*

Neurological activity linked to mood and behaviour has been associated with nutrients and dietary intake (Jacka *et al.*, 2017; Strang *et al.*, 2017). A complex interplay of brain and gut activity are understood to act as pathways for potential effects on mood, cognitive and emotional processes (Zagon, 2001), including tryptophan and the gut microbiome, excess sugar and fat consumption, micronutrient function and inflammatory processes (Lomagno *et al.*, 2014; Jenkins *et al.*, 2016; Kroes *et al.*, 2014; Liao *et al.*, 2018). Sugar and fat ingestion may temporarily stimulate the endogenous  $\mu$ -opioid receptor system and dopamine pathways to alleviate stress and negative mood state (Tuulari *et al.*, 2017; Wenzel and Cheer, 2018). Instantaneous mood improvement from palatable food in the post-prandial stage can forge repeated and habitual coping mechanisms for mood management (Macht and Mueller, 2007). Observational studies, cross-sectional data and longitudinal research point to an association between fruit and vegetable consumption and improved mental health outcomes (Rooney *et al.*, 2013; Mujcic and Oswald, 2016). Links have been established between high sugar and fat consumption (Liao *et al.*, 2018), low intake of omega-3 fatty acids and a depressed mood (Akbaraly *et al.*, 2009), while Mediterranean pattern diets are associated with improved long-term mental health conditions through reductions in inflammation and oxidative stress (Sánchez-Villegas *et al.*, 2009; Conner *et al.*, 2017). In addition to improving long-term mental health, a wealth of studies has demonstrated improvements on short-term well-being and positive affect following fruit and vegetable consumption (Wahl *et al.*, 2017; White *et al.*, 2013; Blanchflower *et al.*, 2013), while some trials support a causal association between well-being and fruit and vegetable consumption (Conner *et al.*, 2017). As such, both short-term and long-term mood effects are significant in the food-mood relationship.

### *Women and the food-mood relationship*

Distinctions have been drawn between men and women concerning nutrition and health (Kiefer *et al.*, 2005), and notable gender disparities are present in the physiological and psychological processes of the food-mood connection (Arganini *et al.*, 2012). Increased limbic system and prefrontal cortex activity have been linked to mood state and anxiety in women who are prone to elevated stress response and chronic stress vulnerability (Matud, 2004; McDonough and Walters, 2001). More women in England experience anxiety and lower moods compared with men, with documented rates of 19% and 12%, respectively (McManus *et al.*, 2016). Social roles that women tend to occupy may be significant in this response (Oksuzyan *et al.*, 2010; WHO, 2009). A higher proportion of women than men are likely to eat in response to stress, anxiety and low mood (Lafay *et al.*, 2001), with a number of factors implicated in this process, including sleep deprivation (Saleh-Ghadimi *et al.*, 2019), and socio-economic factors (Thompson *et al.*, 2018). Heightened cortisol response and resulting hypothalamic pituitary adrenal axis responsivity (Klatzkin *et al.*, 2018) can lead to increased energy intake via sweet and fatty food products (Zellner *et al.*, 2006; Roberts, 2008). Feelings of guilt in the post-consumption period may contribute to increased low mood which is particularly pronounced in women (Wansink *et al.*, 2003), and amplified in the presence of body image ideals which has been observed in both younger and older women (Bedford and Johnson, 2006).

### *Faith, health beliefs and wellbeing*

Health and health-related practices may shape the interplay between food and mood among individuals and populations (Wahl *et al.*, 2017). Religious beliefs in particular may be an important aspect of the food-mood connection within faith communities, due to the widely held conviction of the interconnectedness between mind, body and spirit (Koenig, 2012).

Due to the considerable differences that exist in conceptualising and measuring religiosity, conflicting findings exist regarding the relationship between religiosity and mental health (Hackney and Sanders, 2003). Recent research indicates that a positive association may exist (AbdAleati *et al.*, 2016), with

some evidence suggesting that the correlates of religiosity include: social support (Prado *et al.*, 2004) self-actualisation (Oppong, 2013), locus of control (Powell *et al.*, 2003) stress-management, (Clements and Ermakova, 2012), purposefulness, (Park, 2005), wellbeing (Koenig and Cohen, 2002), coping (Tepper *et al.*, 2001), emotion regulation (Vishkin *et al.*, 2014), as well as increased physical (Powell *et al.*, 2003) and mental health benefits (Amadi *et al.*, 2016).

### *The public health context: nutrition and mental health*

The World Health Organisation (1946) positions mental well-being as a central aspect of its definition of health and as a core principle embedded in its constitution. However, few countries' health systems adequately address mental health and well-being (Lake and Turner, 2017). Depression is the largest contributor to global disability and poor health, affecting over 300 million people (WHO, 2019). In the UK approximately 19% of people suffer from common mental health problems (Office for National Statistics, 2019). Depressed persons are at risk of developing physical illnesses, and have a 58% increased risk of obesity (Luppino *et al.*, 2010). In light of the growing evidence surrounding nutrition and mental health, this has important implications where highly processed foods and sugary snacks are readily available (Otter, 2012). Chronic exposure to such products perpetuates unhealthy eating patterns, which can also be linked to mood disorders (Breymer *et al.*, 2016), as well as non-communicable diseases linked to obesity, of which depression and anxiety, are known comorbidities (Luppino *et al.*, 2010; Bjerkeset *et al.*, 2008). Public health recommendations suggest a reduction of free sugars to <5% of daily calorie intake. However UK adult consumption exceeds this recommended limit by more than double (Scientific Advisory Committee on Nutrition, 2015; Public Health England, 2015), with factors such as bottle feeding and unhealthy maternal gut microbiome (Keith *et al.*, 2019), marketing forces (Locher *et al.*, 2005), and sweet taste preferences (Keskitalo *et al.*, 2007) all influencing intake. In addition, inadequate intakes of DHA and EPA (available mainly from oily fish), and fruits and vegetables risk fatty acid, vitamin and mineral deficiencies needed for optimum brain function and mental health (British Nutrition Foundation, 2018). Age, socio-economic factors and familial structures all may affect consumption levels (Verbeke and Vackier, 2005).

Few studies have addressed women's perspectives to find meaning in the food and mood relationship from their point of view. The aim of this qualitative study was to explore key issues surrounding food and mood through the experiences of a sample of women with faith, in inner London. The research also attempted to understand the role faith may play in healthy eating practices and perceptions.

## Methodology

### *Study design*

As informed by Geertz (1973), an adaptive research design underpinned this study to yield 'thick' description. Embedded in a constructivist paradigm whereby new data and meaning is continuously generated through interactions between the researcher and the researched (Bryman, 2016), a qualitative design was selected to allow the quotidian narratives of women to formulate the course of the enquiry. As such this study is underpinned by subjectivist ontological reasoning to elucidate meaning from the women's experiences, while deductive processes generated public health data and evidence-based research relevant to the topic.

### *Setting*

Convenience sampling was used, taking advantage of respected gatekeeper access to the population. The study was carried out in two churches in inner London, where common mental health conditions account for a large burden of disease. Inner London anxiety levels in particular are noted to be higher than those in outer London and across the UK, with prevalence estimates at 42.1% (Authority, 2014).

### *Participants and sampling*

The study sample comprised 22 women. Sample size was determined by the level of “information power” needed to yield diversity of voices within a set time-frame (Malterud *et al.*, 2016). Study eligibility was defined by age and sex so that only women aged 18 or over were recruited and only those able to speak English and provide written consent.

Convenience sampling was employed via one personal church context (Church 1) as an advantageous method that afforded access to a group of women in one setting within a set time-period (Marshall, 1996). One further church (Church 2) was contacted via email and chosen based on locality and accessibility. Sampling from Church 2 was pursued in order to diversify participants, interview women unfamiliar to the researcher, and to enable within-method triangulation of data. Participant ages ranged from 19 to 80 (mean=48) years. The sample contained mostly White British (36%), single (45.5%) women educated beyond secondary school (59%).

### *Data collection*

Participants were recruited via posters displayed in church premises as a cost-effective and straightforward recruitment tool that is associated with a high response rate for research studies (Krusche *et al.*, 2014). “Informational redundancy” informed the timing of the conclusion of data collection (Sandelowski, 2008, p875). Participants were interviewed through focus groups as the principle form of data collection and individual semi-structured interviews as a secondary method. Utilising both focus groups and individual interviews afforded the opportunity to mitigate weaknesses inherent in each method. Interviews were conducted within church grounds and recorded using an audio device following participant consent.

### *Focus Groups*

Focus groups are noted as powerful tools for validating and empowering voices of women, and for enabling solution-focused sharing (Madriz, 2000). Focus groups were additionally chosen as a means of harnessing dynamism in collective experiences and to elicit varied opinions. Within focus groups some women were well-known to each other, and these pre-formed ‘natural groups’ facilitated flowing discourse that enhanced the women’s narratives to provide rich data (Kitzinger, 1995). Seating was arranged in a circular fashion to ensure participants were equally positioned and to reduce the presence and power of the researcher, which afforded an equalising environment for openness and sharing (Kamberelis and Dimitriadis, 2010). Group size (3 focus groups of 6 participants each) and length (60-90 minutes) were planned in consonance with recommended qualitative health research recommendations (Green and Thorogood, 2018). After adjusting to suit participant needs, focus groups included 7, 4 and 7 participants per group.

### *One-to-one interviews*

Semi-structured individual interviews were conducted with 4 participants to explore topics in greater depth, and as a validation strategy for methodological triangulation to increase depth in findings (Denzin, 2017; Thurmond, 2001). Interviews lasted between 30-35 minutes.

### *Topic guide*

Questions were designed to draw out personal responses and formulated through analysis of extant research on women, health, nutrition, mood, and mental health. The topic guide included questions to explore “emotional cues, moods and feelings,” that affect food choice, as suggested in Furst *et al.*’s (1996) conceptual model of food choice. The topic guide was piloted on 3 individuals to establish its feasibility as a research tool (Creswell, 2009), and questions were adjusted accordingly.

*Data analysis*

To uphold anonymity, names and personal details were removed and participants’ responses are displayed using numbers as follows: those who were part of Focus Group A are presented as P1 to P7; those in Focus Group B – presented as P8 to P11 and individual interviewees as P12 to P15. All participants P1 to P15 attended Church 1 which was attended by the interviewer; participants in Focus Group C were labelled P16 to P22 and attended Church 2.

The three focus groups and four individual interview recordings were fully transcribed verbatim. Thematic analysis was carried out to elicit patterns and themes within the data (without the use of software). This method was not fixed to a particular theoretical framework, thereby allowing participant voices to better drive the enquiry (Braun and Clarke, 2006).

An identical data analysis process was followed for focus groups and individual interviews, however initial analyses were performed separately before drawing together, in order to trace distinguishing patterns captured in either method that may have produced different results. Further cross-analysis took place between Church 1 and Church 2 in order to compare responses.

Four important themes emerged within the data, with several subthemes, which are presented in Table 1.

*Quality assurance procedures*

Reference to the Critical Appraisal Skills Programme qualitative checklist (2017) enabled conscious reflexive practice throughout the process of collection and analysis. Data were shaped from interactions between the lead researcher and the participants, and as such necessitated a rigorous process of reflexive awareness. Co-authors reviewed interpretations and conclusions, with no areas of disagreement and full consensus reached. Seale (1999) suggests researcher beliefs can exist beyond consciousness, and in recognition that epistemological views and methodological assumptions cannot be fully detached from the researcher, and in order to be open to critique, transparency was sought in all aspects of the research process (Green and Thorogood, 2018).

**Table 1: Themes and subthemes**

THEME 1: Healthy eating incentives & challenges		THEME 2: Emotional eating	THEME 3: Relationships with food		THEME 4: Faith & religious beliefs
Subthemes:		Subthemes:	Subthemes:		Subthemes:
Happiness & wellbeing	Health beliefs	Boredom & distracted eating	Women as providers		Food as gifted from God
Energy & alertness	Fatigue	Low mood	Social bonds & interpersonal relationships		Personal relationships with God
Time & preparation	Environment	Stress & comfort eating	Childhood, food preferences & aversions		Biblical precedents
Hunger			Body image & weight	Post-prandial guilt	
			Eating enjoyment	Sensory aspects of eating	

## Ethics

This study was carried out with full adherence to University of Westminster's ethical principles as outlined in the Code of Good Research Practice and Code of Practice Governing the Ethical Conduct of Research (2017a; 2017b; Ethics code: ETH1718-1274, Class 1). Verbal permission was obtained from church leaders to conduct research on their premises. Participants received information sheets via email which included an introduction to the study, description of interview procedures, participant's rights, and the researcher's contact details. To ensure a safe and ethical research environment (Krueger and Casey, 2014), participants were informed of confidentiality processes prior to taking part in the study, and were assured that they could withdraw at any stage with no consequences.

## Findings<sup>1</sup> and Discussion

Objectives of this study were met through rich and descriptive material that highlighted psychological facets of the food-mood relationship as entwined with socio-cultural, environmental and physiological variables. Emergent patterns in analysis suggest pre-prandial and post-prandial mood state encompassed varying degrees of the positive and negative affect spectrum, with conscious and reflective mechanisms implicated. Data suggests healthy eating patterns were linked to positive affect, while excess sugar and fat consumption were linked to both positive and negative affect. Themes are illustrated below with excerpts from the interviews.<sup>2</sup>

### Theme 1: Healthy eating incentives and challenges

*"Eating well gives me a real mood boost, it really does. I think there is a clear link between how we view our food and how we feel when we eat it. I feel much happier eating food I know is good for me..."* (P10)

Nearly all women in the sample described healthy eating as linked to health benefits. Healthy choices were often preceded by a good mood which supports studies that implicate temporal construal processes in determining food choices; positive affect has been linked to choices serving long-term goals such as health, while negative affect prompts greater likelihood of indulging in unhealthier foods (Gardner *et al.*, 2014). Positive post-prandial effects were often experienced when preceded by good mood and alongside ongoing patterns of healthy eating.

*"...I've started to change how I eat and I do feel happy ...I feel satisfied when I eat my nice mixed salad with fish..."* (P13)

Women frequently reported both improved energy and wellbeing when incorporating other wholefoods included in Mediterranean patterns of eating, such as fish, wholegrains and leafy greens. Omega-3 fatty acids and essential nutrients such as zinc, folate and B-vitamins found in such foods have been consistently linked to improved mental health and lower rates of depression (Akbaraly *et*

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<sup>1</sup> See Table 2-26 in Appendix for detailed findings

<sup>2</sup> Excerpts codes are displayed as:

... words omitted.

() explanations or group interactions

! relayed with energy



al., 2009; Sánchez-Villegas *et al.*, 2009). This may be due to the synergistic effects of essential fatty acids, B vitamins and minerals in many of the women's healthier choices, as well as the presumed effects of nutrients and sense of 'virtue' in consuming such foods.

*"I always try to go for like a piece of fruit first though sometimes it just doesn't work... I still eat the chocolate!...It is like a drug. I remember giving it up for Lent and being really moody"* (P14)

While healthy eating was associated with numerous benefits, many women felt drawn to unhealthy products, some for energy and a temporary boost, others for mood enhancement. Improved health was cited as a goal for some women who noted being 'on track' with healthy eating for a finite amount of time before re-engaging with unhealthy habits. Some described making conscious adjustments to consumption based on health concerns, while for others changing behaviours emerged as difficult, despite the desire to make nutritious choices.

*"...when you go in into our office... there's a whole set of cabinets where we have our snacks, and it's like every day someone will bring in biscuits or cakes ...you've just got this constant temptation"* (P10)

Hunger signalling was amplified through factors that inhibited the ability to align intention with behaviour, including behavioural cues that were deeply embedded into the women's everyday lives and environments. Everyday settings affected choices and quantity of food consumed, as women distinguished between eating patterns in work, social and home environments.

*"Tiredness sometimes actually makes me eat more... yesterday I had Domino's pizza...I hate it but I so was tired, I felt ill with tiredness, so I ate it"* (P9)

When hungry, tired and pressed for time, women expressed increased likelihood of choosing less nutritious foods and more convenience products.

*"...to eat more healthily...It takes a degree of preparation that isn't the same as just whacking something in the microwave"* (P12)

Time emerged as a precious commodity among the women, and was closely linked to hunger, environment and life stage. Working mothers contrasted with retired women or women who worked from home who were able to plan meals and expressed fewer pressures. For some, their roles as family providers affected energy levels, mood, food choices and this restricted their capacity to take care of themselves. In a position of low energy women expressed a finite amount of inner resources to make healthy choices, at times leading to post-prandial energy decrease. Such experiences are indicative of a competing demand between cognitive processes and affect when making decisions--of "heart and mind in conflict" as explored by Shiv and Fedorikhin (1999). Greater levels of cognitive load may account for possible energy lost and overload of the prefrontal cortex, thereby inhibiting cognition and stimulating affective response among the women.

## **Theme 2: Emotional eating**

Assuaging 'emotional hunger' emerged as significant for women in this sample. Food choice and eating behaviour was fuelled by a host of emotional drivers and underpinned by an overarching recognition that food was used for purposes beyond purely satiation of hunger. Eating behaviour was complex as women sought food in response to a variety of negative states, which has been observed in both healthy women and those with eating disorders (Spoor *et al.*, 2017). Avoidance coping, stress-

relief, comfort, pursuing emotional ‘equilibrium,’ and seeking distraction were key to women’s experiences.

*“If I’m very upset, I overeat. If it’s been an emotional day ... and I’m in a bad mood...I’ll have chocolate, crisps, wine. McDonalds is a number 1 contender” (P17)*

Overeating was linked to a dysphoric mood for many women, as corresponds with prior research (Evers *et al.*, 2010; Wansink *et al.*, 2003). Both high negative and low positive affect were implicated in this eating behaviour.

*“I overeat sometimes if I’m a bit bored, so if I’m under occupied I might fill time...” (P14)*

Overeating in low positive affect was linked to boredom and distracted eating, and rarely involved engagement with other persons. Social isolation is linked to poor mental health (Holt- Lunstad *et al.*, 2015) and comfort eating to feelings of social isolation (Locher *et al.*, 2005). It is therefore unsurprising that eating alone in the present study was connected to low mood and sadness.

*“it’s kind of like...a vicious cycle thing...when I’m in a low mood I’ll eat for comfort, and then after it’s like...my outlook would be more negative than usual, just a general grey feeling” (P15)*

Food consumption to relieve negative feelings sometimes perpetuated low mood state and stimulated cyclical ‘coping’ patterns and affect loops. Women reported low mood as a precursor to choosing convenience foods, as well as a consequence of consuming processed and sugary foods, which has been observed in other research (Freeman and Gil, 2004).

*“If I’m very upset, I overeat...and that makes me very upset... I eat all this sugary stuff, it just drops me, making me really cranky” (P18)*

Fuelled by the ubiquitous belief of certain products providing ‘comfort’ (Wansink *et al.*, 2003), some women sought mood melioration in eating. Foods consumed in low mood included sugary, fatty and processed items and low mood also stimulated overconsumption of these products. Meeting short-term need was thereby underpinned by eating patterns that were conducive to the immediate goal of relief and obstructive to the longer-term intention of feeling good.

Several women reported stress as influencing their eating habits which is consistent with research that links emotion-driven appetites in women to high-stress levels (Klatzkin *et al.*, 2018). For women in this sample, stress-induced eating invoked impulsivity in food choice and inhibited portion control, indicating cognitive demand and depletion which has been linked to reduced ability to withstand indulgences (Fedorikhin and Patrick, 2010).

### **Theme 3: Relationships with food**

Relationships with food were complex, multi-layered, and subject to individual variability. Individual value systems, interpersonal level factors as well as external cues and environments impacted food choice and post-prandial mood response. Life stage, childhood experiences, taste preferences, individual and familial health concerns, self-perceptions, attitudes and beliefs were influential in colouring relationships with food. Food and eating represented enjoyment and frustration, anxiety and contentment, love and hate, comfort and reward, a means to nurture bodies, children and relationships, and a mechanism by which women asserted control over their lives.

*“...as a woman, being able to provide food others may enjoy and share, while different to the necessity aspect, can be strong” (P4)*

Age, life stage and familial circumstances varied throughout the sample. While aspects of the women's lifestyles were different, including students living outside of familial home environments, mothers who worked, and retired women, descriptions of the women's personal roles as 'providers' were woven into the narratives, and at other times amid life pressures, and at others as a source of enjoyment and fulfilment. Adapting eating behaviours to favour the needs of family and cooking for others as an expression of love was important to some of the women and enhanced their relationships with food. Eating in the context of family and primary relationships added pleasure and value to the women's experiences and was linked to positive affect, which is consistent with research that links eating with others to with improved mental health and wellbeing (Oxford Economics and the National Centre for Social Research, 2018).

*“...it's like a celebration. There's something about food and feasting and it makes people happy doesn't it... eating food with friends is very sociable, very nice, you know, it's a joyous activity” (P14)*

Social eating was frequently viewed as a celebration, with food a central feature of togetherness and sharing. Consumption behaviours sometimes changed to include bigger portions and foods that were not necessarily consumed at home, yet overeating in social circumstances was not linked to pre- or post-consumption negative affect, in contrast to overconsumption during isolated eating, which was driven by negative mood and prolonged negative affect.

While links have been established between negative mood and unhealthy eating, studies conflict as to whether positive mood stimulates such eating patterns (Bongers *et al.*, 2013; Fedorikhin and Patrick, 2010). Findings from the present study suggest positive mood state is linked to both self-regulation as well as overindulgence. Good mood preceded and followed nutritious food choices, while good mood in social contexts preceded and followed both healthy and less healthy eating behaviours.

Ideas of eating as joined to togetherness and relationships were reinforced through some of the women's childhood experiences. Childhood foods prompted high emotional valence, and women who drew happiness from specific foods often had positive connections with these foods through familial experiences. Women with negative childhood experiences of eating specific foods expressed barriers to consuming such foods. Preferences and food aversions develop throughout the life course (De Cosmi *et al.*, 2017), and some women were aware their habits and preferences were forged through childhood eating experiences, such as eating larger portions or specific foods. Women with negative experiences consequently drew associations with certain tastes, smells and textures, and expressed strong aversions to both certain healthy and unhealthy foods. Foods that provided contentment for women with positive experiences included traditional home-made dishes which held particular resonance as part of their personal associations. Mood-boosting properties of these foods may be attributed in part to an emotional association, however home-made dishes often contained nutritional benefits, such as home-cooked curries. Aspects of love and happiness associated with familial dishes may be enhanced by the mechanistic effects of nutrients. For example, essential amino acids such as tryptophan present in protein-based dishes act as precursors to serotonin, which has been linked to mood (Jenkins *et al.*, 2016).

*“I like chocolates better than I do cucumbers. They just taste better! I'm just drawn to the taste... you know a banana is lovely, but it doesn't cheer me up like Jaffa Cakes do!” (P8)*

Other aspects of food enjoyment were linked to palatability and taste, which were recognised as important in determining food choice, as has been observed across various studies (Yeomans *et al.*, 2004). Visual cues, smells and textures also influenced decisions and determined the level of enjoyment derived from food, which included both savoury and sweet products. A large number of women derived particular satisfaction from sweet products. Sweetness can be a potent stimulus, and research has shown an aversion to bitter tastes and preference for sweetness are embedded in basic biology at birth (Keskitalo *et al.*, 2007). For some women in this study, naturally occurring sugars in fruit and vegetables were not always understood to satisfy cravings. Women distinguished between the potent effects of sugary foods in contrast to fruits and vegetables, which spans biological and psychological levels. The former relates to the effects of sugar as a potent reward that stimulates pleasure responses in the brain, yet may implicate advertising and marketing discourses that present chocolate and sugary snacks as synonymous with relaxation and reward (Locher *et al.*, 2005). A preference for energy-dense foods has long coloured human history, yet the nutritional and physical activity characteristics of hunter-gatherer societies where food functioned as basic nutrition to sustain life has shifted to eating as a socio-cultural construct (Otter, 2012). Thus, while a large number of women enjoyed healthy foods, some were driven by the concept of sugary and fatty foods as treats.

*“In my struggles with my emotions and body, common to most women I would think, is body image, and feeling at times loved and at others unlovable” (P4)*

*“...a lot of the time I'll make a choice like not to eat a McDonalds because I'm worried about how it'll affect my body, just how it looks ...I feel anxious and tend not to eat...a lot of times if I feel anxious I will just will skip a meal” (P17)*

While food was described as an enjoyable part of the women's lives, body image was a powerful aspect of the women's narratives, and eating behaviour was deeply entwined with self-esteem, as correlates with established research (Bedford and Johnson, 2006). Societal pressures, weight fluctuations, and ongoing 'battles' with weight were linked to health concerns. However, ideas of wellbeing were also tied to body image which fuelled maladaptive eating behaviours, such as eating sweets when hungry to provide sugar but fewer calories in full meals, restricting food intake, skipping meals, and exercising to offset overeating. The present sample contained a wide range of ages and body image remained an influential factor in food choice and post-prandial mood at all ages, which agrees with research indicating its significance across a woman's life course (Bedford and Johnson, 2006).

*“If I overeat, I feel very upset ...later I feel so guilty and so bad... because affects my mood, affects sleep, and it affects everything so then I feel like terrible...and then no one like to be close to me” (P18)*

Body image anxieties were often described against the backdrop of the guilt which often followed spells of overeating. Excess calories and fat have been linked to negative mood state in participants for up to two days post-consumption (Hendy, 2012), with results indicative of food as the first influencer in the food-mood relationship. In the present study, guilt followed overconsumption which was associated with lack of control, and suggests food may come first when it relates to guilt. Guilt has also been identified with a propensity to increase or curb food intake following overconsumption of comfort foods and even more nutritious meals (Wansink *et al.*, 2003). However, overeating was generally linked to indulgent foods in this sample, with nutritious meals dissociated from guilt and generally connected with happiness, cooking and togetherness.

## Theme 4: Faith and religious beliefs

Intrinsic religiosity was significant in shaping the food-mood relationship within the women's narratives, as deeply rooted beliefs and religious practices intersected with health, nutrition and wellbeing. Faith in a higher Being was connected to ideas of whole person wellness, which included intellectual, physical, mental and emotional elements.

*“Food...we know it's a gift from God” (P19)*

Ideas of food as 'gifted' from God interconnected with social participation via shared food, which was recognised as a core aspect of church culture that generated joy. Positive perceptions of eating were thus associated with Christian beliefs and practices, with value found in sharing food and 'blessing' food together, which reinforced the women's sense of connection to others and feelings of belonging. This relational aspect of the women's faith thus strengthened their positive life experiences and wellbeing. Previous research links enhanced social support networks to religious involvement (Prado *et al.*, 2004).

*“I try not to eat as much meat... it goes back to looking at Genesis (biblical book) and knowing that they weren't killing animals and eating them in the beginning, that wasn't the design. The original first design was just to eat off the land which was the plants and the fruits in the Garden of Eden” (P7)*

Heeding biblical messages was deemed important for establishing a healthy approach to diet and lifestyle in the women's daily contexts. Scripture was understood as a signpost for positive lifestyle behaviours that provided an interpretive framework to view diet and nutrition. The belief that employing a Biblical foundation to eating can help take care of one's body was identified as a means of increasing self-efficacy in health-promoting behaviours and as contributing to healthier eating choices. Such findings are consistent with the literature which links religiosity with increased sense of control (Koenig, 2012), as scriptural guidance seemingly afforded the women a sense of regulation and direction in their decisions.

*“My journals over the years record a story of me talking to Jesus about every area of my life including my health, weight, living healthily and aiming to honour Him who made me and gave me breath. Jesus has helped me as I've become more secure in him, his love and purposes for my life” (P4)*

Participants reflected on their sense of identity, value and purpose in a higher Being who 'loves' them and 'cares' about their wellbeing. This was understood to provide motivation, strength and direction in carrying out and prioritising health supporting behaviours, as well as feelings of security, contentment and solace. The idea that faith fostered identity and purpose added value to themselves and their daily actions, and was described as having a directly positive impact on mood and personal growth. Such narratives are supported in literature that indicates intrinsic religiosity may be significant for improved individual mental health (Amadi *et al.*, 2016).

### *Limitations and recommendations for research*

Unravelling conscious affective mechanisms in the food-mood matrix through perceptions and experiences is both complex and problematic, and a host of variables influenced the data garnered from this study. Part of the complexity of mood state lies not only within its subjective nature, but due to the variety of moods that lie across the affect spectrum. While some patterns could be traced, such as the connection between environments, convenience foods and time, unique factors pertinent to

individuals may have amplified connections, such as barriers to accessing supermarkets or working patterns. This ethnically diverse sample of women was drawn from a borough which has both prosperity and socioeconomic deprivation and thus responses within the groups may reflect different opportunities, capabilities and motivations (Michie *et al.*, 2011). Further, the sample contained a wide range of age groups, and as such responses reflect differing experiences across the life course which may inhibit cohesiveness in findings. An additional consideration for future studies includes examining if BMI has any bearing on food-mood responses, due to connections between obesity and mood disorders (Luppino *et al.*, 2010).

### *Implications*

The improvement of mental health and dietary health are public health goals (London Health Commission, 2015). For the UK government to meet its commitments to public mental health, targeting social and environmental components of the food domain may provide opportunity to enhance this relationship, through the creation of relevant services and strategies that foster women's mental health, and in doing so the health of their families and communities. Encouraging more communal eating events may improve health outcomes for the family and the community.

### *Conclusions*

This study explored the complex linkages between food and mood as experienced among women in one borough of London. Questions remain about how to modify relationships with food that improve mental health and wellbeing among women. Further studies are warranted to gain a comprehensive assessment of the relationship between food and mood among women in other settings.

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## Appendix

Participant numbers and methods of data collection are displayed in **Table 2, Column 1. Column 2** contains participant quotes to illustrate themes. The **Guide box** section illustrates abbreviations.

**Table 2:** Example theme

Column 1	Column 2	Guide box abbreviations: <b>HI:</b> Healthy eating incentives <b>HC:</b> Healthy eating challenges <b>P:</b> Participant <b>FG:</b> Focus group <b>121:</b> Individual interview
Participant; Method	Theme	
P1; FGA	<i>Participant quotes</i>	

**Table 3:** Theme 1: Healthy eating incentives and challenges

HI HC	Theme 1 [T1]: Healthy eating incentives [HI] and challenges[HC]
HI HC P21; FGC	<i>I'm quite passionate about health and nutrition, like I do lots of dark green vegetables and salad...sometimes for women cos we tend to not have enough magnesium in our bodies and iron levels...it depends, sometimes it can be I can do it and then fall off the wagon...you know, got a sweet tooth!</i>
HI P9; FGB	<i>When you feel more hopeful and positive the balance is more tipped towards you managing life and then you are eating healthily, and then you can think more clearly. I find healthy food if I am on a roll it's what I crave and um I'm really eating healthily if I listen to what my body is telling me to eat...I usually feel far more satisfied eating a healthy meal then just giving into some sugar somewhere along the line, so um although my mood affects how much I eat, I do much prefer to eat healthily, and um I think sometimes I really tune in, I know specifically what my body is craving so whether it is vegetables or um or a meal you know with veg and meat. But I think health as well because...it's not just for fuel is it, if our system is going to be healthy, our immune system and organs and yeah your brain and everything. That's another reason I choose to stop drinking wine</i>

**Table 4:** HI: Subtheme 1: Happiness and wellbeing

T1	HI: Subtheme 1: Happiness and wellbeing
P4; FGA	<i>...kale cooked gently with sesame seeds or olive oil or steamed spinach...definitely the effect of eating that within a few hours or even the next day feels great</i>
P14; 121	<i>I feel healthier and lighter when I have more kind of veggie food than processed all meat foods, and brown rice and things like that</i>

**Table 5:** T1: Subtheme 2: Health beliefs

T1	HI: Subtheme 2: Health beliefs
P22; FGC	<i>I love food but then I'm aware that food is the root of most diseases as well so...I just have to draw back sometimes...I just make food like you say your medication, because if you don't you may have to take the real medication which is full of chemicals, which has you know complications and side effects and um because you know food causes a lot of issues as well, you look at obesity, diabetes look at their eating, look it is the food that we eat... so a lot of what I like now I have to cut down on...especially as you grow older again you have to be careful which food you choose...</i>

P4; FGA	<i>I had a diagnosis last August for diabetes type 2 which shocked me...I knew my lifestyle had to change... I was on metformin and statins and I was cutting out sugar and halving the fruit...everything was within the normal range including cholesterol--it was meant to be 5 and it was actually down to 4.1 which is really good...what's motivating me now is to keep on this regime because hopefully I'll...come off the medication because that's what I'd like to do because I'm feeling better... I just want to do what's good for my body and therefore rather than it just being about self-control...it's taken a stick of diabetes type 2 to wake me up and think I need to do something to make the most of my life</i>
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**Table 6:** T1: Subtheme 3: Energy and alertness

<b>T1</b>	<b>HC: Subtheme 3: Energy and alertness</b>
P21; FGC	<i>I enjoy dark green vegetables and salad...it's the energy level it gives you</i>
P20; FGC	<i>...my favourite foods now are more pulses and sprouted greens when I can do them because I know I get the energy <u>from</u> them that lets me go long...</i>

**Table 7:** T1: Subtheme 4: Fatigue

<b>T1</b>	<b>HC: Subtheme 4: Fatigue</b>
P8; FGB	<i>If I'm tired I might get a takeaway...I definitely feel dreadful probably within an hour of having a takeaway...McDonald's and stuff like that. I just feel like really lethargic sometimes, I feel like actually unwell...I would be asleep at my desk after having a McDonald's at lunch time...I started eventually seeing the pattern</i>
P13; 121	<i>...when you're tired you think ok I'll give myself more fuel...when you know deep inside that fuel's not really needed...it's just that urge of having food...I'll get takeaways...I feel quite tired umm bloated and umm just feel like umm like I want to sleep</i>

**Table 8:** T1: Subtheme 5: Hunger

<b>T1</b>	<b>HC: Subtheme 5: Hunger</b>
P7; FGA	<i>I find if I go shopping when I'm hungry I buy all the sweet stuff</i>
P14; 121	<i>How hungry you are, when you're dishing up affects how much I eat...I find that if I cut carbs then I feel tired, more hungry and then pick up sweet counter stuff</i>

**Table 9:** T1: Subtheme 6: Time and preparation

<b>T1</b>	<b>HC: Subtheme 6: Time and preparation</b>
P8; FGB	<i>I definitely eat healthier at weekends and during holidays because there's time isn't there...you know I will make an effort to have breakfast and I will make something sensible for lunch and for our evening meal or whatever...I think when you do have that and there is less pressure as well you as well you just feel relaxed and you're more sensible than about your choices...I'll prepare a big bowl of salad...being prepared as a good thing....whereas if you're not getting home until...around 6...so now what can I cook and eat within the hour and that's where all that convenient stuff comes in again doesn't it...I think you think that you are saving time sometimes you even convince yourself that it is...but you come up with all these I suppose rationales don't you, you go, 'oh it's much better to have McDonald's tonight than to cook'...</i>
P14; 121	<i>...it's just the head space to plan it all, it's just... I need time and energy, headspace...it's just a beast to cook...the thing about the chocolate is it's convenient and easy whereas you have to spend quite a lot of cooking... I suppose if I had my own personal chef I wouldn't eat <u>any</u> chocolate I would just eat delicious healthy food all day long... I need</i>



	<i>time, energy and headspace to cook... feeling tired coming home from work ummm and then you've got the kids... it's a chore to cook... it's difficult, I've got six people to feed, and I hear, 'what's for dinner? What's for tea?' And I'm like 'I don't know yet I haven't decided!' Ahhhh!</i>
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**Table 10:** T1: Subtheme 7: Environment and availability

<b>T1</b>	<b>HC: Subtheme 7: Environment and availability</b>
P8; FGB	<i>If I'm driving back from work there are lots of takeaways on the way back or I'll just order it now from home: Uber Eats (laughter). Yeah, shall I spend the next hour or half an hour or whatever cooking or should I sit down and enjoy that rubbish on the telly and let the man bring it?! (laughter)</i>
P13; 121	<i>...McDonald's for breakfast... lunch would be like a sandwich or panini and then dinner would be the Chinese next door... at work we have a canteen and they serve practically everything, and the high street is 2 mins away...there's a pub....it's just, it's eating out</i>

**Table 11:** Theme 2 [T2]: Emotional eating

	<b>Theme 2: Emotional eating</b>
P4; FGA	<i>...working full time over the age of 62, hidden or difficult to recognise stress and anxiety...coupled with broken sleep and lack of sleep, created a sense of being trapped, fluctuating in keeping my own life in balance physically. This caused me to be deeply anxious but not really recognising that!...I would be waking up early in the morning and whether it was 4:30 or 5:30...I couldn't go back to sleep. I would get up and have comfort food to go back to sleep because the stress of lying there knowing you've got another full day....</i>
P8; FGB	<i>I might just be like oh I'm fed up or I've got this email or whatever and I want something to cheer me up and um...things happen throughout the day don't they and you just want a 'fix' of something. You know when I was a smoker I would have gone out and had a cigarette, you know um in those situations I know it's what I would have been like, 'urgh so and so is getting on my nerves-I'm gonna go and have a fag!' But you know now it's a packet of Jaffa Cakes! (laughter) it's like kind of like I have to reach for something. I don't smoke anymore and I don't want to be an alcoholic so, I'll eat food.</i>

**Table 12:** T2: Subtheme 1: Boredom and distracted eating

<b>T2</b>	<b>Subtheme 1: Boredom and distracted eating</b>
P10; FGB	<i>...It will be something like I'm eating while watching a film so my mind isn't actually engaged with the eating...peanut M&amp;Ms, Minstrels or something like that umm tube of Pringles, bag of Doritos...I know that if I wasn't in that situation if I wasn't sitting there watching something I wouldn't</i>
P11; FGB	<i>I definitely overeat um through boredom...if I'm sitting down and watching something so you know you get them horrific mega bags of crisps or and you know you're halfway through you might as well finish it. With that I can't stop</i>

**Table 13:** T2: Subtheme 2: Low mood

<b>T2</b>	<b><i>Subtheme 2: Low mood</i></b>
P9; FGB	<i>If I feel really low it's like, 'Oh no I need to eat.' The emotions have been tipped so need to get them back. I need to squash the feeling, it's strange...then I overeat</i>
P1; FGA	<i>...when you're sitting at home alone in the evening... all my thoughts are of food...I ate a whole one of those Chicago Town pizzas one day till I felt sick...just felt low</i>

**Table 14:** T2: Subtheme 3: Stress and comfort eating

<b>T2</b>	<b><i>Subtheme 3: Stress and comfort eating</i></b>
P13;121	<i>If I'm at work and if I'm stressed, I go for comfort food...that's normally sweets or chocolates...when I want to let go of stress, I'm like yeah, I want to binge...</i>
P12; 121	<i>I overeat if I'm stressed... my eating changes a lot because I can't be bothered to make the good decisions so I'll just eat the comforting stuff instead ... if I'm really stressed then I'm like well all my energy is going into not being too stressed so I'm just gonna eat the biscuits and chocolate</i>

**Table 15:** Theme 3 [T3]: Relationships with food

	<b><i>Theme 3 [T3]: Relationships with food</i></b>
P9; FGB	<i>It's like a love-hate relationship. I love it and then when I'm not in control I hate it. I can control my eating in a good season. With the general pressure of life-forget it! If I'm in a really strong emotional place then yes, but a lot of the time you're just trying to get equilibrium because a lot of the time life is hard</i>
P4; FGA	<i>Any time life has got out of balance of having even some time to walk, swim, do specific exercises due to work or family or a combination, my eating has been less pre-organised and self-controlled and more circumstantially controlled... my relationship with food...I think I would describe it as two words one is it's good and it's more objective than it used to be and that's been helped by having really sound advice medically over many years now... my overall lifestyle caused periods of stress that I think rocketed my hormonal levels and made me feel ill and the feeling of being trapped and in a state of anxiety close to burn-out...to eat 4 Ryvitas with 2 low fat cheese triangles and a lot of watercress and water would make me feel good as I felt I was in control... healthy food seems to mean you are living like you <u>want</u> to...</i>

**Table 16:** T3: Subtheme 1: Women as providers

<b>T3</b>	<b><i>Subtheme 1: Women as providers</i></b>
P21; FGC	<i>...even if I'm not eating what I'm making for that person, I love the fact that I'm making it for the person</i>
P6; FGA	<i>I've got two kids to feed so I'm trying to do a lot more white meat or fish...healthy stuff</i>

**Table 17:** T3: Subtheme 2: Body image and weight

<b>T3</b>	<b><i>Subtheme 2: Body image and weight</i></b>
P9; FGB	<i>I am really body image conscious; I hate being heavier...it's like every single day I think about the fact that I'm not happy with the weight I am, so if I get hungry and trying to lose weight I'll to have like a few boiled sweets instead to get the sugar rush. If I get hungry, quick get some sugar! ... if I've eaten badly and I think I'm going to be hungry, I'll choose sweets. I'll carry on eating the unhealthy stuff...it's almost like a twisted psychological thing that in my twisted state it feels less fattening! I think I fear that if I have the lean chicken and veg I'm still gonna want the sweets! So it's like, don't have the chicken and have the sweets instead</i>
P2; FGA	<i>Through puberty I put on more weight...there's a real struggle to like yourself from outside society... I always feel like it's a constant it's kind of like you know those horror movies where you have walls closing in on you have to push back against it I feel like body positivity and self-esteem which is always been very big for my generation... I know that if I wear like tighter clothing ... you guys will be like, 'ooh what's that?' (pointing to her body)</i>

**Table 18:** T3: Subtheme 3: Post-prandial guilt

<b>T3</b>	<b><i>Subtheme 3: Post-prandial guilt</i></b>
P10; FGB	<i>If I eat a pork pie... I start feeling crap about myself because I just know there's flipping no goodness in it and a lot of badness...I know sneaking food is a reinforcing loop - you cram it in, hidden away in the kitchen, behind the door of the fridge. It's rushed in case you're discovered. There's guilt and then self-loathing and shame afterwards which drives further comfort eating. I think secretive behaviour is so damaging in relation to food. The mood it generates is all about failure, lack of control, the need for pleasurable stimuli which actually has a short-term reward for a long-term pain...it can be obsessional, damaging to body, mind and spirit... the worst thing about eating crap is you just eat more of it so you think urgh what's the point now I might as well just eat a load more... it's just it starts small but then it just gets worse and worse and worse...</i>
P12; 121	<i>I think I'm conscious that it's happening (overeating). I don't always feel that great. I don't feel good about it to be honest... I think it kind of adds to the stress of it but then you're...I think maybe because you've um kind of realised that you've caved... when it's like a moment of weakness kind of later on you feel a bit annoyed with yourself about it... Takeaway pizza...at the time eating it feels really good and it makes you feel really happy but afterwards or even the next day you'll be like urrrgh it makes you feel less good... mentally and physically</i>

**Table 19:** T3: Subtheme 4: Childhood

<b>T3</b>	<b><i>Subtheme 4: Childhood</i></b>
P13; 121	<i>My upbringing was fantastic, because it was literally, you know, Asian food! In terms of a large portion of rice, a large portion of curry that actually filled the plate so there was no portion control... it's just umm it's tradition. Food was a part of life, food was a part of growing up ... it was so good!...Curry...makes me feel ummm kind of warm and cuddly, like it's the kind of the love that you had from your parents and the love that you have from your family growing up</i>
P14; 121	<i>I don't really like ham sandwiches... I don't really like cheap and nasty cheap processed food... though my mum used to... she used to make us sandwiches, ham sandwiches... ham sandwiches <u>every day</u>, literally, <u>every day</u>... she used to freeze them every day, take one out of the freezer and by lunchtime it would have thawed... my mum has a real issue with</i>

*food though so my mum's obese and ummm so in that sense that does kind of, I don't really want to end up like my mother*

**Table 20:** T3: Subtheme 5: Eating enjoyment

<b>T3</b>	<b>Subtheme 5: Eating enjoyment</b>
P2; FGA	<i>Food is pure enjoyment. I don't eat foods that I don't like unless it's to spare someone's feelings... mum says to me, 'what about oats and berries?' And I'm like, no! I'll never eat kale; I'll never enjoy kale...I love brownies. I'll get food as a reward for myself for doing like work or something.</i>
P13; 121	<i>...I've had nuts in my drawer for ages and my cupboard has nuts... but they are still unopened, like it doesn't do anything for me...I bought a banana today but I didn't eat it, it's still in my bag...I still choose to eat junk... I think it's just the fact that I'm eating the comfort food I <u>want</u>. I do try to walk once a day but then I eat during my walks as well so when I walk I'll go to the shop and get a pastry as a reward...my feelings influence how I eat, in terms of what food, but I think the outcome is...I think it's the fact that I'm eating what I <u>want</u> without having to eat foods that I know would be beneficial. It's like a greed, say for example, if someone was to make sticky toffee pudding which was burnt and you know, not edible, I still feel satisfied because I've had my dessert, so I've managed to have the food I want</i>

**Table 21:** T3: Subtheme 6: Sensory aspects of eating

<b>T3</b>	<b>Subtheme 6: Sensory aspects of eating</b>
P15;121	<i>I associate food with goodness, it's about <u>taste</u>, what I <u>feel</u> like. I really don't like berries I've just discovered, you can keep them, please, urgh! I just don't like the kind of sharpness in them a bit aggressive, a bit rude, so no thank you. Kinder Bueno (Chocolate bar), one thousand per cent!</i>
P13; 121	<i>...something like um fish on couscous... just would not, it wouldn't make me happy. It wouldn't be something that I would look forward to... it's not comforting ... I think even if I were eat couscous on fish I would still be hungry... but not hungry as in I <u>need</u> to eat, but as in my brain says, 'how <u>dare</u> you!' When I go shopping you see all these low fat, low salt, I don't bother with those... I just don't think it you know, for me it would be oh it will taste different and I wouldn't know how that would taste, what's the point in me spending a certain amount when I probably won't like the taste and I can get the taste that I like</i>

**Table 22:** T3: Subtheme 7: Social bonds and interpersonal relationships

<b>T3</b>	<b>Subtheme 7: Social bonds and interpersonal relationships</b>
P17; FGC	<i>I love going out to eat with my friends and like a lot of um I would say like my rituals with friends tend to revolve around food...that's like a special thing. I know whenever I get invited over to people's house I tend to overeat...it's soo good ooh! But like yes if I'm being fed like oh and I can just enjoy it so much; a home-cooked meal</i>
P10; FGB	<i>I think food is a lot about social activity isn't it? I think if you really want to enjoy your food ... you need to be together...I really enjoy my food... done well, it adds great value to life and community</i>

**Table 23:** Theme 4: Faith and religious beliefs

<b>T4</b>	<b>Theme 4: Faith and religious beliefs</b>
P14;121	<i>...my faith... that's the stem root of choosing eating more ethically and choosing more locally sourced things...and less meat...and like more Fairtrade and that kind of stuff... so I think it massively impacts</i>
P9; FGB	<i>I don't know, if it's being in the West or whatever that we just don't think about, we just eat what we want to eat... I do think about what does it mean that my body is the Temple of the Holy Spirit ... God made us and he knows what makes us function in the best possible way, so I wonder if we've blocked out his voice on that issue almost, and if we allowed it in a bit we might even find the will to take back some care of our bodies</i>

**Table 24:** T4: Subtheme 1: Food as gifted from God

<b>T4</b>	<b>Subtheme 1: Food as gifted from God</b>
P1; FGA	<i>God's given the Earth; he's provided everything we need to eat... I'm sort of trying to be more aware of that with health choices</i>
P10; FGB	<i>I think he (Jesus) probably really enjoyed his food and I think you know it's so much more than just getting your body fuel; it's a delight it's a real gift of God... God gave us taste buds</i>

**Table 25:** T4: Subtheme 2: Personal relationships with God

<b>T4</b>	<b>Subtheme 2: Personal relationships with God</b>
P9; FGB	<i>...when I think about what it means to be a human being and I think about being made by God I don't always think I'm quick enough to realise that he actually cares... that our bodies are a temple of the Holy Spirit and sometimes I think, 'sorry Lord, sorry about the state of this temple!' (laughter) I think God made us to be flesh and bone. He made us to be human beings so he actually cares about our bodies and the past Christians used to say things like 'the body doesn't matter it's all about the spirit', but that's rubbish he really cares he chose to make us flesh and blood and so you know not that I want anyone to put any pressure on me or at whatever to bring me down I don't want to bring anyone down but perhaps we could all do with just being a bit mindful of that and asking God to help us</i>
P4; FGA	<i>Right from thyroid diagnosis that's been very much a part of my walk with God and understanding that he loves me and wants me to learn to look after myself and um so along the way I've realised it has involved some repentance on my part about greed and yeah so I think it's sobering but it's really good because God Is Love and he gives us his Holy Spirit to prompt and help us</i>

**Table 26:** T4: Subtheme 3: Biblical precedents

<b>T4</b>	<b>Subtheme 3: Biblical precedents</b>
P7; FGB	<i>I try not to eat as much meat... it goes back to looking at Genesis (Biblical book) and knowing that they weren't killing animals and eating them in the beginning, that wasn't the design. The original first design was just to eat off the land which was the plants and the fruits in the Garden of Eden</i>
P21; FGC	<i>The Bible says again that being too greedy or by eating is gluttony, so I like the way the Bible puts it, you know, so self-control but in moderation</i>