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International Interdepartmental Master of Science Programme in

LIFESTYLE MEDICINE

**THE EXPERIENCE OF FOOD ADDICTION AND EATING BEHAVIOURS IN
BARIATRIC SURGERY PATIENTS: A PHENOMENOLOGICAL STUDY**

by

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A Master Thesis submitted to the faculty for the partial fulfilment of the obligations in
order to obtain the postgraduate title of MSc in Lifestyle Medicine of the University of
Thessaly

12.06.2025

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Author's Contribution Statement

I certify that I am the author of this thesis and that any assistance I have had in its preparation is fully acknowledged and referenced in the following text. I have also cited any sources from which I have used data, ideas or words, whether they are quoted exactly or paraphrased. I also certify that this thesis was prepared by me personally specifically for the requirements of obtaining a Master's degree in Lifestyle Medicine by the University of Thessaly. I declare that I will respect co-authorship rights in any linked scientific publication and/or presentation stemming from this thesis, in accordance with my signed affirmation, and in respect of the principles of ethics in research. Likewise, I declare I will recognize any funding sources and will acknowledge my affiliation to the University of Thessaly during the preparation of this work in any future presentation.

EMELI NOACK

Acknowledgments

I am fortunate to have had the support of my thesis advisor Giorgos Sakkas. Thank you for always being open for a meeting and for supporting me throughout this process with guidance and encouragement. I would also like to thank my professors Christina Kratzaferi and Kalliopi Georgakouli for their lectures within the master's course that only got me interested in the topic, as well as Antonis Stavropoulos-Kalinoglou for his willingness to assess my thesis.

My sincere appreciation goes to Vassilios Zikas for helping me adhere to the correct methodology and guiding me through difficulties in the qualitative analysis, making my thesis more impactful and credible. Special thanks are due to the class of M.Sc. Lifestyle Medicine who were learning, studying and struggling alongside me as well as the faculty and staff of the department.

I would like to thank my co-workers and Dr. Sonja Reichenstein and recognise the support of my employer Vivantes which allowed me to conduct the research. This work would not have been possible without my research participants, who were willing to share their personal experiences and support non-funded academic research.

I am thankful to Erik F. for being my first test subject and for motivating me to keep going and to Freya Z. for proofreading. Special thanks go to my grandparents, Hannelore, Frank, Sigrid and Bernd. Without their support this thesis would not have been possible. Finally, I am grateful to my parents for everything.

Abstract [English]

Introduction: Food addiction is increasingly recognised as a significant public health concern, yet its conceptualisation and lived experiences remain underexplored. While quantitative research established the prevalence of food addiction, less is known about how individuals personally interpret this condition.

Aims: This research aimed to give voice to individuals living with food addiction to explore whether food addiction is best understood as a behavioural addiction, substance addiction, or eating disorder. Treatment approaches that participants deemed most useful shall be identified.

Methodology: A mixed-methods approach was employed. To quantitatively represent the prevalence of food addiction and food addiction symptoms among the sample, the Yale Food Addiction Scale 2.0 was used. Descriptive statistics show the exemplary results as the sample was $n = 16$. The main part of the methodology was the phenomenological approach to capture the lived experiences of individuals with food addiction. The data were analysed using thematic analysis. Core themes related to participants' perceptions of their struggles and recovery emerged.

Results: Participants described food addiction as a deeply personal, often isolating, struggle. Perspectives on the nature of food addiction varied: some identified with a substance-related addiction. When they talked about specific foods they were craving, or physical symptoms they were experiencing when abstaining from the food, this became evident. Other participants saw parallels with a behavioural addiction. The aspect of emotional eating and accompanying habit formation was the main driver of their eating habits. Treatment experiences were diverse, but many participants reported that improvements in their relationship with food were more meaningful than weight loss alone.

Discussion: These findings highlight the complexity of food addiction and the importance of individualised approaches in both research and treatment. By underscoring the voices of those affected, this thesis highlights the need for flexible, person-centred interventions and challenges the field to move beyond one-size-fits-all models. Future research should continue to integrate lived experience to inform more effective care for individuals with food addiction.

Keywords: Food Addiction, Bariatric Surgery, Eating Behaviour, Lifestyle Medicine

Abstract [German]

Einleitung: Nahrungsmittelabhängigkeit wird zunehmend als bedeutendes Problem für die öffentliche Gesundheit anerkannt, doch ihre Konzeptualisierung und die gelebten Erfahrungen der Betroffenen sind bislang wenig erforscht. Während quantitative Studien die Prävalenz von Nahrungsmittelabhängigkeit belegen, ist weniger darüber bekannt, wie Einzelpersonen diesen Zustand persönlich interpretieren.

Ziele: Ziel dieser Arbeit war es, den Betroffenen von Nahrungsmittelabhängigkeit eine Stimme zu geben, und um zu erforschen, ob sie am besten als Verhaltenssucht, Substanzsucht oder Essstörung verstanden werden kann. Es sollten außerdem die Therapieansätze identifiziert werden, die die Teilnehmenden als am hilfreichsten empfanden.

Methodik: Es wurde ein Mixed-Methods-Ansatz gewählt. Zur quantitativen Erfassung der Prävalenz von Nahrungsmittelabhängigkeit und ihrer Symptome in der Stichprobe wurde die Yale Food Addiction Scale 2.0 verwendet. Deskriptive Statistiken zeigen beispielhaft die Ergebnisse bei einer Stichprobengröße von $n = 16$. Der Hauptteil der Methodik bestand im phänomenologischen Ansatz, um die gelebten Erfahrungen von Menschen mit Nahrungsmittelabhängigkeit zu erfassen. Die Daten wurden mittels thematischer Analyse ausgewertet. Es kristallisierten sich Kernthemen heraus, die die Wahrnehmungen der Teilnehmenden zu ihren Herausforderungen und ihrem Genesungsweg widerspiegeln.

Ergebnisse: Die Teilnehmenden beschrieben Nahrungsmittelabhängigkeit als einen sehr persönlichen und häufig isolierenden Kampf. Die Sichtweisen auf die Natur der Abhängigkeit variierten: Einige identifizierten sie als substanzbezogene Sucht, was insbesondere dann deutlich wurde, wenn sie von bestimmten Nahrungsmitteln sprachen, nach denen sie ein Verlangen hatten, oder von körperlichen Symptomen beim Verzicht auf diese Lebensmittel berichteten. Andere Teilnehmende sahen Parallelen zu einer Verhaltenssucht, wobei emotionales Essen und die damit verbundene Gewohnheitsbildung der Hauptantrieb für ihr Essverhalten waren. Die Erfahrungen mit Behandlungsansätzen waren vielfältig, doch viele berichteten, dass Verbesserungen in ihrer Beziehung zum Essen für sie bedeutsamer waren als reiner Gewichtsverlust.

Diskussion: Diese Ergebnisse unterstreichen die Komplexität der Esssucht und die Bedeutung individueller Ansätze sowohl in der Forschung als auch in der Behandlung. Indem die Stimmen der Betroffenen hervorgehoben werden, zeigt diese Arbeit die

Notwendigkeit flexibler, personenzentrierter Interventionen auf und fordert dazu auf, von Einheitsmodellen abzurücken. Zukünftige Forschung sollte weiterhin gelebte Erfahrungen integrieren, um eine effektivere Versorgung von Menschen mit Nahrungsmittelabhängigkeit zu ermöglichen.

Keywords: Nahrungsmittelabhängigkeit, bariatrische Operation, Essverhalten, Lifestyle Medizin

Περίληψη [Greek]

Εισαγωγή: Ο εθισμός στο φαγητό αναγνωρίζεται όλο και περισσότερο ως ένα σημαντικό ζήτημα δημόσιας υγείας, ωστόσο η εννοιολογική του και οι βιωμένες εμπειρίες παραμένουν ελλιπώς διερευνημένες. Ενώ η ποσοτική έρευνα έχει καθορίσει τη συχνότητα εμφάνισης του εθισμού στο φαγητό, λιγότερα είναι γνωστά για το πώς τα άτομα ερμηνεύουν προσωπικά αυτήν την κατάσταση.

Σκοποί: Η παρούσα έρευνα αποσκοπούσε στο να δώσει φωνή σε άτομα που ζουν με εθισμό στο φαγητό, ώστε να διερευνηθεί αν ο εθισμός αυτός κατανοείται καλύτερα ως εθισμός στη συμπεριφορά, ως εθισμός σε ουσίες ή ως διατροφική διαταραχή. Επίσης, στόχος ήταν να εντοπιστούν οι θεραπευτικές προσεγγίσεις που οι συμμετέχοντες θεωρούν πιο χρήσιμες.

Μεθοδολογία: Χρησιμοποιήθηκε μια μικτή μεθοδολογική προσέγγιση. Για την ποσοτική αποτύπωση της συχνότητας του εθισμού στο φαγητό και των σχετικών συμπτωμάτων στο δείγμα, χρησιμοποιήθηκε το Yale Food Addiction Scale 2.0. Περιγραφικά στατιστικά παρουσιάζουν τα ενδεικτικά αποτελέσματα για το δείγμα των $n = 16$ ατόμων. Το κύριο μέρος της μεθοδολογίας ήταν η φαινομενολογική προσέγγιση, προκειμένου να αποτυπωθούν οι βιωμένες εμπειρίες των ατόμων με εθισμό στο φαγητό. Τα δεδομένα αναλύθηκαν με θεματική ανάλυση. Προέκυψαν βασικά θέματα σχετικά με τις αντιλήψεις των συμμετεχόντων για τις δυσκολίες και την ανάρρωσή τους.

Αποτελέσματα: Οι συμμετέχοντες περιέγραψαν τον εθισμό στο φαγητό ως έναν βαθιά προσωπικό και συχνά απομονωτικό αγώνα. Οι αντιλήψεις για τη φύση του εθισμού διέφεραν: κάποιοι ταυτίστηκαν με εθισμό σε ουσίες, κάτι που φάνηκε όταν μιλούσαν για συγκεκριμένα τρόφιμα που λαχταρούσαν ή για σωματικά συμπτώματα που εμφάνιζαν όταν απείχαν από αυτά. Άλλοι συμμετέχοντες είδαν παραλληλισμούς με εθισμό στη συμπεριφορά, με τη συναισθηματική κατανάλωση φαγητού και τη δημιουργία σχετικών συνηθειών να αποτελούν τον κύριο παράγοντα των διατροφικών τους συνηθειών. Οι εμπειρίες από τις θεραπείες ήταν ποικίλες, αλλά πολλοί ανέφεραν ότι η βελτίωση στη σχέση τους με το φαγητό ήταν πιο σημαντική από την απώλεια βάρους.

Συζήτηση: Τα ευρήματα αυτά αναδεικνύουν την πολυπλοκότητα του εθισμού στο φαγητό και τη σημασία της εξατομικευμένης προσέγγισης τόσο στην έρευνα όσο και στη θεραπεία. Δίνοντας έμφαση στις φωνές των ίδιων των ατόμων που επηρεάζονται, η παρούσα εργασία υπογραμμίζει την ανάγκη για ευέλικτες, προσωπομετρικές παρεμβάσεις και θέτει υπό αμφισβήτηση τα μοντέλα «μία λύση για όλους». Η μελλοντική έρευνα θα πρέπει να

συνεχίσει να ενσωματώνει τις βιωμένες εμπειρίες για την παροχή πιο αποτελεσματικής φροντίδας σε άτομα με εθισμό στο φαγητό.

Λέξεις-κλειδιά: Εθισμός στο φαγητό, βαρβαρική χειρουργική, Διατροφική συμπεριφορά, Ιατρική του τρόπου ζωής

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List of Abbreviations

LM: lifestyle medicine

FA: food addiction

SUD(s): substance use disorder(s)

YFAS (2.0): Yale Food Addiction Scale (2.0)

BS: bariatric surgery

ED(s): eating disorder(s)

BN: bulimia nervosa

BED: binge eating disorder

AN: anorexia nervosa

UPF(s): ultra-processed food(s)

BMI: Body Mass Index

CBT: Cognitive-behavioural therapy

1. Introduction

Recognising and addressing food addiction (FA) and disordered eating behaviours is essential, as these patterns are becoming more prevalent (Hauck et al., 2017). They are significant barriers to sustainable health and chronic disease prevention.

Studies report prevalence rates of approximately 14% in the general adult population and even higher rates among individuals with obesity and those seeking bariatric surgery (Gearhardt et al., 2009; Pursey et al., 2014).

FA is characterised by compulsive overconsumption of highly palatable foods, loss of control, and continued use despite negative consequences. Those patterns closely mirror substance use disorders (SUDs). Research has shown that individuals with FA are at increased risk for obesity, metabolic syndrome, type 2 diabetes, and cardiovascular disease (Schulte et al., 2015). FA is associated with greater psychological distress, including depression and anxiety, and a lower quality of life (Meule, 2015). Despite these profound health and psychosocial impacts, FA remains underdiagnosed and understudied, underscoring the urgent need for further research and targeted interventions.

Even though there is quantitative evidence for the prevalence and correlates of FA, there are significant gaps in our understanding of its lived experience, cultural context, and development across the lifespan. Few studies have explored how individuals personally experience and interpret FA, how it evolves over time, or how cultural and social factors shape its manifestation (Schiestl et al., 2024a). Qualitative, phenomenological research is needed to capture these dimensions, inform the refinement of assessment tools, and guide the development of more effective prevention and/or intervention strategies.

To address this gap, the aim of this study is to explore the lived experiences of individuals with FA using a phenomenological approach.

2. Aims – Significance

This thesis seeks to explore and understand the relationship that pre- and post-bariatric surgery patients have with food – in particular FA. The research focuses on how people perceive, interpret and make meaning of their experiences. It provides deeper insights into psychological, emotional and behavioural changes that occur. By focusing on personal narratives and meaning-making, this research seeks to provide deeper insight into how a life with FA is.

We centred our efforts around the questions of whether FA is an addiction that should be recognised and if so what kind of addiction it is: behavioural or substance-based. We also explored different treatment approaches and how useful they were to participants, capturing their subjective opinion of the treatment they received.

This may contribute to a more nuanced understanding that can inform future interventions and support strategies. The findings may improve patient education and enhance the overall well-being of bariatric surgery patients. Ultimately, this study aspires to give voice to those living with FA to facilitate a more holistic approach within lifestyle medicine (LM) and public health.

3. Literature Review

The concept of FA was first introduced by Randolph in 1965. He proposed that certain foods can trigger addictive-like behaviour (Gearhardt et al., 2009). Foods that are known to be potentially addictive are those high in fat and/or sugar. People diagnosed with bulimia nervosa (BN), binge eating disorder (BED), and/or obesity who consume those foods excessively are said to be “addicted”. Comorbid addictions are often observed in these populations, e.g. BN and BED are often associated with high alcohol consumption and nicotine addiction (Meule et al., 2012). Whereas the underlying psychological mechanisms may be similar, the term food addiction needs to be defined clearly.

3.1 Definition of Food Addiction

In the 5th edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5), addictions are separated into substance-related (e.g. alcohol or drugs) and behavioural (e.g. gambling or internet). The word “addiction” was changed to “dependence” to avoid stigmatisation (Gearhardt, White, et al., 2011). As of 2025, neither the DSM-5 nor the 11th revision of the International Classification of Diseases (ICD-11) formally recognises food as a substance or behavioural addiction, but tools like the Yale Food Addiction Scale (YFAS) help identify addictive eating patterns (Constant et al., 2020).

Research frequently highlights that most foods related with addictive-like eating are those high in calories, fat, sugar, and carbohydrates (Parylak et al., 2011). But at times, the literature states that patients might be addicted to the act of eating itself rather than a specific substance within the food (Ratković et al., 2023). The addiction would be habitual, a behavioural pattern and not substance driven.

Paterson et al., (2019) supposed three possible conceptualisations for FA:

- a SUD where ingredients of hyperpalatable foods trigger an addictive-like response in the brain,
- a behavioural addiction emphasising cognitive and habitual aspects of the ingestion of food, or
- an ED, specifically a subtype of BED as it shares most of its diagnostic criteria.

In the following the diagnostic criteria for an SUD are discussed and equivalents of FA are given.

3.1.1 Diagnostic Criteria of Substance Use Disorders Applied to Food Addiction

Tolerance, in the context of SUDs, refers to the need for increasing amounts of a substance to achieve the desired effect, or experiencing a diminished effect when continuing to use the same amount. This concept has been applied to food addiction, where individuals report needing to consume greater quantities of certain foods to achieve satisfaction (Meule et al., 2012).

Withdrawal is another diagnostic criterion, characterised by physical or psychological symptoms that emerge when substance use is reduced or stopped. However, applying the idea of withdrawal to food is controversial in the literature, as food is essential for survival, making its abstinence fundamentally different from that of addictive substances (Meule et al., 2012).

Cravings can be caused by abstinence from a substance (food). They are accompanied by physiological and neurological changes that are similar to a craving for drugs. In the context of food, these cravings can be intense and difficult to resist (Meule et al., 2012).

The **amount** of the substance ingested is usually greater or longer than intended (Meule et al., 2012). In FA, the term “binges” has come up to describe the large amount of food that is consumed within a certain time, not unlike the diagnostic criterion of BED and BN. Especially foods that are high in caloric value are preferred.

Repeated unsuccessful **attempts** to reduce the substance consumption also diagnose a SUD. This also classifies FA, but applies to BN, BED, obesity, and the general population trying to lose weight (Meule et al., 2012).

SUDs often involve spending a lot of **time** acquiring the substance, consuming it, or recovering from the effects. Meule et al., (2012) argue that, as food is legal and easy to get one’s hands onto, this criterion is less applicable to FA.

Even though the sufferers know of the harm they are inducing to themselves, they continue using the substance (Meule et al., 2012) resulting in physical and psychological **consequences** (e.g. obesity, high blood pressure, diabetes, low self-esteem) and social/interpersonal **problems** (e.g. isolation, stigmatisation, conflicts). This is the case for patients with BED, BN, and obesity.

A failure to fulfil major role **obligations** also diagnoses an SUD and classifies FA. Once a person stops delivering in school, at work, or at home this criterion is fulfilled. Additionally,

individuals may be giving up or reducing important social, occupational, or recreational **activities** because of their substance use.

Finally, some may use the substance in physically dangerous **situations** – or create those through a lack of attention resulting from usage of the substance.

Some criteria seem to align more closely (craving and impaired control) to the phenomenon of FA than others (tolerance and withdrawal) when thinking about FA as a SUD (Adams et al., 2019). Moreover, not all cases of obesity are caused by FA, and individuals of normal weight may display disordered eating or FA patterns. Table 1 shows how these criteria would apply to FA:

DSM-5 SUD Criterion	FA Equivalent	Explanation / Example
Larger amounts/longer period than intended	Eating more food or for longer than intended	Common in binge eating and loss of control over eating
Persistent desire or unsuccessful efforts to cut down	Repeated unsuccessful attempts to reduce/control eating	Trying to stop eating/stop eating certain foods, dieting
Much time spent obtaining, using, or recovering	Excessive time spent acquiring, eating, or recovering from food	Planning binges, recovery from overeating
Craving or strong desire to use	Intense craving or urge for certain foods	Craving is a core feature of food addiction and binge eating.
Failure to fulfil major role obligations	Overeating leads to neglect of work, school, or home responsibilities	Missing work due to overeating episodes
Continued use despite social/interpersonal problems	Continued overeating despite conflicts with family/friends	Family or relationship strain due to eating patterns
Giving up/reducing important activities	Avoiding social, occupational, or recreational activities due to eating	Social withdrawal or missing events due to eating behaviours or shame
Recurrent use in physically hazardous situations	Eating in situations where it may be dangerous	Eating while driving or with medical contraindications
Continued use despite physical/psychological consequences	Continued overeating despite knowing it causes/worsens health issues	Psychological distress related to eating, physical consequences (e.g. obesity)
Tolerance	Needing more food to achieve satisfaction or same effect	Increased consumption over time to achieve the same pleasure
Withdrawal	Negative mood/physical symptoms when reducing certain foods (e.g. sugar)	Irritability, headache, or mood changes, hard to distinguish from dieting

Table 1: DSM-5 Criteria for Substance Use Disorders Applied to Food Addiction

3.1.2 Yale Food Addiction Scale 2.0

The Yale Food Addiction Scale 2.0 (YFAS 2.0) is a standardised self-report instrument designed to assess “addiction-like” eating behaviours. The DSM-5 diagnostic criteria of SUDs are applied to those of the consumption of highly palatable foods since SUDs such as

alcohol dependence shares genetic, cellular, and behavioural aspects with FA (Ratković et al., 2023). As of 2025, it is the only validated tool to assess symptoms of FA.

In this thesis, the validated German version of the YFAS 2.0 was used (Meule et al., 2017). It consists of 35 items, each referencing specific eating behaviours over the past year. Items are rated on an eight-point frequency scale as shown in table 2:

0	never
1	less than monthly
2	once a month
3	2-3 times a month
4	once a week
5	2-3 times a week
6	4-6 times a week
7	every day

Table 2: YFAS 2.0 Scoring

The scale includes both symptom-related questions and items that serve as introductory contextual prompts. Each item is mapped onto one of eleven diagnostic criteria for SUD as defined by the DSM-5. These criteria include aspects such as loss of control, unsuccessful attempts to cut down, tolerance, withdrawal and continued use despite negative consequences. For scoring, responses are dichotomised. A criterion is considered fulfilled if at least one corresponding item meets the threshold for endorsement.

A continuous symptom score is calculated by summing the number of fulfilled criteria (excluding the impairment/distress criterion). “Food addiction” is classified if at least two (mild), four (moderate), or six (severe) criteria are met, in addition to clinically significant impairment or distress (table 3).

SYMPTOM MET	SEVERITY/CLASSIFICATION
0-1	No food addiction
2-3	Mild food addiction
4-5	Moderate food addiction
6+	Severe food addiction

Table 3: YFAS 2.0 Severity

While the YFAS 2.0 does not itself establish the existence of FA as a clinical diagnosis, it provides a reliable and standardised tool for identifying individuals who are most likely to experience addictive responses to food (Meule et al., 2017; Meule & Gearhardt, 2014). Schiestl et al. (2024) found it to be a useful diagnostic tool, but participants often display the emotional eating, which the scale does not fully capture.

The YFAS is also valid to be used on clinical populations. It is applicable to patients who have undergone weight-loss-surgery/bariatric surgery. The YFAS reliably assessed FA symptoms in these groups and is sound for clinical use (Clark & Saules, 2013). While FA as assessed by the YFAS often overlaps with emotional eating and BED, it remains distinct in its focus on addiction-like patterns related to SUDs and behavioural inhibition (Clark & Saules, 2013).

3.1.2 Prevalence

In the literature, FA is often referred to in relation with eating disorders. Because people with disordered eating patterns also show an increased likelihood of suffering from a comorbid addiction (e.g. alcohol, nicotine). In turn, people who were addicted to the internet had a higher eating disorder pathology (Meule et al., 2012). So, addictions and EDs seem to co-influence one another.

Population	Prevalence of FA	Sources
General population	5 - 10 %	Meule et al., 2017; Pedram et al., 2013
Women	6.7 – 10.2 %	Meule et al., 2017; Pedram et al., 2013
Men	3.0 – 4.1 %	Meule et al., 2017; Pedram et al., 2013
ED patients	< 92 %	Imperatori et al., 2016; Meule, 2024
Overweight/obese	7.7 – 18.6 %	Meule et al., 2017; Pedram et al., 2013

Table 4: Prevalence of Food Addiction

Meule et al., (2012) found that women are suffering from FA more often than men. Overweight and obese individuals also had a higher prevalence of FA (table 4). They tend to have a higher body mass index (BMI) and body fat percentages, a higher diastolic blood pressure, and spend more time engaging in sedentary activities compared to those without FA (Zielińska et al., 2024).

BED patients have an increased prevalence for FA compared to those without (di Giacomo et al., 2022), so it may have a predictive value for EDs. The most common comorbid ED is BN, while BED is still more common than anorexia nervosa (AN) to occur together with FA (di Giacomo et al., 2022).

3.2 Differentiating Food Addiction from Binge Eating Disorder

FA and BED share many common features. But whereas BED is a (newly) recognised disorder in the ICD-11 and DSM-IV with minor changes in the DMS-5, FA is not.

3.2.1 Binge Eating Disorder

The ICD-11 defines BED as follows: *“Binge eating disorder is characterised by frequent, recurrent episodes of binge eating (e.g., at least once a week over a period of several months), in which the individual experiences loss of control over eating, and eats a larger amount or different type of food than most people would under similar circumstances. Binge eating episodes are not regularly followed by inappropriate compensatory behaviours aimed at preventing weight gain (e.g., self-induced vomiting, fasting, excessive exercise, or misuse of laxatives or other medications). The individual experiences marked distress about the binge eating or significant impairment in personal, family, social, educational, occupational or other important areas of functioning.”* (ICD-11 for Mortality and Morbidity Statistics, 2019).

The diagnostic criteria for BED according to the DSM-5 are: a large amount of food is ingested in a small time window, feelings of loss of control, guilt, and shame (after the incident), abdominal distension, anxiety surrounding the event, no compensation (e.g. laxative use, purging, fasting, excessive exercise), and at least one binge a week for 3 months (DSM-5, 2016).

BED sufferers want to ease their mental strain – frequently this mental preoccupation centres around thoughts about weight, shape, and failed perfectionism (Ratković et al., 2023). Parylak et al., (2011) concluded that the fact that people eat in response to negative emotions may suggest a self-medication with comfort food. The binge occurs within a specific period of time with a sense of loss of control (Gearhardt, White, et al., 2011). People mainly care for the quantity and not the taste of the food in particular (Ratković et al., 2023).

People with BED experience patterns of disordered behaviour (as in recurring attacks) rather than a continuously disordered behaviour that people with FA display (Ratković et al., 2023). These disordered behavioural patterns mainly consist of an overindulgence in food, which occurs mainly in the free time, and in solidarity (Ratković et al., 2023). People affected by BED are usually aware of the abnormally large portion sizes, and the other aspects of the disorder. After an eating attack, BED sufferers experience feelings of shame, guilt, and low self-esteem as they are overly aware and concerned about their body, weight, shape and possibly increasing body mass (Ratković et al., 2023). A lack of food is interpreted as something positive: the food cannot be accessed, and no physical discomfort can be induced

through the consumption. A sense of control over the food consumed is established (possibly over-restrictive) (Ratković et al., 2023).

Individuals with BED show a higher prevalence of other comorbidities such as depression, anxiety, bipolar disorder, and alcohol/drug abuse (DSM-5, 2016). This correlation suggests that negative emotional states can trigger a relapse to bingeing behaviour. Traits like low self-esteem, neuroticism, and depression are associated with BED in men and women (Parylak et al., 2011).

3.2.2 Food Addiction

There is an ongoing discussion about whether FA should be an accepted official addiction. Because food contains nutritive and caloric value, which is necessary for the body to survive, it is difficult to say which substances exactly cause FA (Ratković et al., 2023).

People suffering from FA look for specific foods to taste. Unlike BED patients, people do not feel a loss of control during the binge but a “craving” for specific foods prior to it (Paterson et al., 2019). The act of eating serves a hedonic purpose – a feeling of pleasure induced by the consumption of food. This type of food overconsumption is not linked to a specific time frame. It includes a higher consumption of the substance (food) than anticipated or a greater frequency than intended (Gearhardt, White, et al., 2011). Ratković et al., (2023) supposed that this might be the same "hedonism" as the one seen in SUDs. FA sufferers are unaware of their condition – or are unwilling to admit to it, deny it, or project their behaviour onto something else (Ratković et al., 2023).

A lack of food is interpreted as something negative. People affected by it respond with anger, aggression, and irritability (Ratković et al., 2023). As it is true for most addictions, they cancel plans to make room for their overindulgence.

FA sufferers do not experience the same amount of shame or guilt as BED sufferers once an eating attack happens (Ratković et al., 2023). That is why solidarity does not matter to them during an eating attack: there are no changes in their self-esteem as long as the “*system of self-delusion remains active*” (Ratković et al., 2023). FA is linked to greater psychological distress, including higher rates of depressive symptoms, lower self-esteem and self-efficacy, and are more likely to internalise negative beliefs about their weight (Zielińska et al., 2024).

3.2.3 Similarities

Despite the many differences between FA and BED, there are important similarities and common features that might aid the treatment approach of either. For instance, both have similar underlying neurobiological bases with an overindulgence in food past being hungry – or even the absence of hunger to begin with (Ratković et al., 2023).

There is a short-term mood improvement during the indulgence but people often experience severe abdominal distension after overeating (Ratković et al., 2023). Both are associated with diminished control during consumption, diminished ability to reduce the quantity and frequency of use, excessive patterns of consumption despite negative consequences, mood dysregulation and impulsivity, and similar triggers (Gearhardt et al., 2011).

The “cravings” for food or certain foods are also described in both phenomena, as well as the intention to quit but failure in doing so. Huge implications of physical, psychological, and social nature are seen in the person’s life (Ratković et al., 2023).

There is also evidence about sleep disturbances but it has not yet been determined if the sleep disturbances lead to the bingeing-like behaviour or the other way around (top-down/bottom-up-approach). Ratković et al., (2023) found that sleep disturbances lead to inhibitory control issues, especially in those individuals that are trying to abstain from certain substances. Binges usually happen during the hours between 5 p.m. and 12 a.m., which disrupts the natural circadian rhythm and may induce higher levels of impulsivity. A possible cause could be that binge eaters commonly have the evening chronotype (getting up late and going to bed late), and insomnia complaints (Ratković et al., 2023).

Though the differences are slight, it is important to know them to prescribe the correct treatment method for the respective underlying psychopathology.

3.3 Mechanisms of Food Addiction

FA is not simply a matter of willpower but the result of complex interactions between the brain’s reward systems, cognitive processes, and emotional regulation. These systems interact to perpetuate compulsive consumption of highly palatable foods, despite the adverse consequences.

3.3.1 Neurobiology

The consumption of drugs stimulates the release of dopamine which, in turn, yields the rewarding feeling of these substances. With chronic consumption the availability of

dopamine D2-receptors decreases, and a chronic stimulation of the reward pathway leads to a desensitisation (Meule et al., 2012). It is supposed that the consumption of sugar causes a similar release in the metabolic system (Ratković et al., 2023).

The desensitisation causes a higher food uptake to achieve the desired result in the reward system (Parylak et al., 2011). Eating highly palatable foods may lead to a relief of negative emotions in the short term, but over time less dopamine D2-receptors are available and less dopamine is released (Gearhardt, White, et al., 2011; Parylak et al., 2011).

This neuroadaptation of the brain's stress and reward pathway is similar to the mechanisms that occur in SUDs. As a result, there is an increased activity in regions like the striatum and orbitofrontal cortex when individuals are exposed to food cues or anticipate eating (Adams et al., 2019). Yet, a chronic overconsumption does not exclusively lead to overweight or obesity but is likely to, as the foods consumed are often high in calories, fat, and sugar.

Avena et al. (2008) studied the lower dopamine D2-receptor activation in rats after clinically induced "sugar-binges". The study states that excessive sugar intake can lead to behavioural and neurochemical changes similar to those seen in SUDs. The intermittent sugar intake caused repeated dopamine surges in the nucleus accumbens, mimicking drug-induced reward pathways. As the rats were not able to access sugar, or as an opioid agonist (naltrexone) was administered, they showed anxiety-like withdrawal symptoms (e.g. teeth clattering). Next to the downregulation of dopamine D2-receptors, there was an upregulation of mu-opioid receptors, similar to drug addiction. These findings suggest that excessive sugar intake can lead to dependency similar to that of drugs via shared pathways. This might have implications to human conditions like binge eating or obesity, where similar mechanisms may drive the compulsive food consumption.

While there are similarities in the neural responses between food and drug cues, the evidence for classic addiction features such as tolerance and withdrawal are less robust in the context of food. Although the brain's reward pathways are involved, FA may not mirror SUDs at the neurobiological level (Adams et al., 2019).

3.3.2 Psychopathological Factors

The neurobiological mechanisms provide a foundation for understanding the compulsive nature of FA. Yet, it is the interplay with various psychopathological factors that often determines its onset, severity, and persistence. This suggests that the disorder is deeply rooted in both emotional and cognitive domains.

There is a weak correlation between an individual's **impulsivity** and the occurrence of FA (Meule et al., 2012). "Impulsivity" is often described as the triggering factor in substance dependence behaviour – the same is true for food dependence behaviour. A small but statistically relevant correlation between motor impulsivity and FA was found (Meule et al., 2012).

Emotional factors such as depressions, loneliness, stress, and low self-esteem are strongly associated with FA. Many individuals use food to regulate their mood, relieve negative emotions or cope with stress (Ha & Lim, 2023).

FA can also be associated with an altered reward process in the brain. Individuals who score high on measures of FA often show heightened response in the reward-related regions when they are exposed to food cues (Adams et al., 2019). It indicates an increased sensitivity to the rewarding properties of food, mirroring the patterns observed in SUDs. The **reward dysfunction** may lead to compulsive overeating as a way to compensate for a deficiency in experiencing pleasure or reward from other sources (Schulte et al., 2016). This, in addition to the **reduced self-control** and **inhibition**, may contribute to the difficulties in resisting cravings and controlling food intake.

Exposure to stress, trauma, or psychological adversity (especially early in life) has been identified as a risk factor for both SUDs and FA (Wiss et al., 2020). These experiences may contribute to harmful **coping strategies**. People suffering from FA tend to display **compulsive** tendencies in terms of their food intake (esp. hyperpalatable foods) (Parylak et al., 2011). With an increasing consumption of those, the reward that the consumption brings, lessens.

3.4 Societal Influences

The modern food environment is characterised by a widespread availability of inexpensive, highly processed foods rich in sugar, fat, and salt. The food industry exploits the humans' biological predispositions for energy-dense foods (Monterrosa et al., 2020). This abundance of palatable foods, combined with social cues and advertising, increases the likelihood of developing addictive eating patterns and links to more deaths globally than any other health risk (Afshin et al., 2019).

3.4.1 Ultra-processed foods

Ultra-processed foods (UPFs) are industrially manufactured products made primarily from substances extracted or derived from foods—such as refined sugars, fats, and starches. They typically contain additives like preservatives, colourings, flavourings, and emulsifiers, and are energy-dense but low in fibre, micronutrients, and protein, which can promote overeating and weight gain (Monteiro et al., 2019). They also tend to have a high glycaemic index, leading to rapid spikes in blood sugar, and may contain additives that could disrupt gut health or metabolic processes. Health research consistently links high consumption of UPFs to a range of adverse outcomes. These include an increased risk of obesity, type 2 diabetes, cardiovascular diseases, hypertension, certain cancers, and mental health disorders (Vitale et al., 2024). Common examples are soft drinks, packaged snacks, instant noodles, frozen meals, mass-produced breads and pastries, processed meats (like hot dogs and nuggets), and ready-to-eat or ready-to-heat products.

The focus of FA research is increasingly put on those hyperpalatable foods as they may possess addictive properties (Gearhardt, White, et al., 2011). All highly processed foods were named as most problematic and triggering. They seem to be closely linked to addictive-like eating, while minimally processed, whole foods were rarely associated with distress or impairment (Schiestl et al., 2024b).

At first, they connected to positive associations and motivations: hedonic pleasure, euphoric high (not unlike drug abuse) (Parylak et al., 2011). With time, both association and motivation change: to relieve a state that is mostly uncomfortable, caused by abstinence. Motivation for consumption shifts towards preventing/ameliorating negative consequences such as stress, anxiety, or depression. This equates to a downregulation of the brain's reward system (Parylak et al., 2011). Unlike natural or minimally processed foods, UPFs are intentionally engineered to be hyper-palatable, making them highly rewarding and difficult to resist (Gearhardt et al., 2023).

UPFs can trigger addictive responses in the brain that closely resemble those seen with SUDs. The combination of refined carbohydrates and fats in UPFs appears to have an addictive effect on the brain's reward systems: their combined impact is greater than either nutrient alone. This can lead to compulsive consumption, cravings, loss of control, and continued use despite negative consequences of addiction (Gearhardt et al., 2023).

3.4.2 Food Environment, Marketing and Diet Culture

Society shapes not only what foods are available and desirable but also how individuals relate to eating and body image. In a study by Paterson et al. (2019), participants with FA were experiencing a large amount of distress. It was mainly focused on weight, and not on the addictive-like eating patterns or negative health consequences. Those participants who did not experience any weight gain due to their eating habits also reported a smaller amount of distress. Paterson et al. (2019) concluded that the sources of distress were the thin-idealisation, experienced and perceived weight stigma, and that the self-worth is largely connected to the weight and appearance.

Participants of a study by Schiestl et al. (2024) named a strong desire for UPFs in their childhood. Depending on which foods were available at home, paternal control over food could be protective or a risk factor. In the adolescent years, participants focussed more on weight-related themes and had a higher exposure to UPFs. Schiestl et al. (2024) concluded that the time of adolescence and young adulthood is a high-risk time for the development and escalation of FA symptoms. In adulthood the triggers played a larger role, the biggest one being stress. This contributed to worsening symptoms, as the participants were entrenched in their patterns of compulsive eating.

The food industry markets these products aggressively, further encouraging overconsumption and making it difficult for individuals to regulate their intake. UPFs are mainly advertised to people because they are the product group in the food industry that is most proprietary. The production cost is a lot lower than what they are sold for, so they generate a lot of money. High-end foods ('healthy', 'whole') are harder to make seem novel and interesting, so there is little growth in that market (van Tulleken, 2024, pp.141-42).

For some individuals, food becomes a way to cope with emotional problems, a tendency that may be influenced by genetic predisposition (van Tulleken, 2024, p.144). However, much of the rising prevalence of obesity and food addiction can be attributed to the modern food environment. People living with obesity often face an environment that promotes unhealthy eating, lack access to nutritional education, and may also have genetic factors that increase their susceptibility to weight gain. Obesity and FA is not simply a lack of willpower (van Tulleken, 2024, pp. 138, 144). The causes of FA have not yet been clearly identified but it is likely that a combination of biological factors such as genetics and brain chemistry, and

environmental influences such as the availability of UPFs, marketing and social norms play a role (Cullen et al., 2017).

Lastly, there is a clear correlation between poverty and density of fast-food outlets. The concentration of fast-food outlets in impoverished areas is not incidental but a result of systemic factors. Addressing this requires regulatory measures such as restricting new fast-food outlets in deprived areas and improving access to healthy foods to counteract the environmental drivers of diet-related health disparities (van Tulleken, 2024, p. 140).

3.5 Summary

Food addiction is not yet a recognised condition/addiction/dependence in either the DSM-5 or ICD-11. There is however evidence that it should be considered in various aspects as it has diagnostic value for eating disorders and substance use disorders. The reviewed studies consistently highlight the role of neurobiological pathways, such as the dopaminergic dysfunction, as well as cognitive and emotional factors, as significant contributors. It also has its own pathophysiology, which requires a detailed and tailored treatment approach, which can be derived from both substance use disorders and eating disorders. All treatment approaches can influence one another positively.

There is a diagnostic tool that classifies food addiction: the Yale Food Addiction Scale 2.0, which applies the diagnostic criteria of substance use disorders to food. This approach has been validated for use, also in special populations and different languages. It precisely differentiates food addiction from other eating disorders (mainly binge eating disorder).

Societal influences, particularly the widespread availability and aggressive marketing of ultra-processed foods, were found to exacerbate the risk of food addiction, especially in socioeconomically disadvantaged populations.

Despite these advances, the literature reveals several gaps. There is ongoing debate about the precise diagnostic criteria for food addiction, and longitudinal studies examining causality remain limited. Furthermore, few studies have explored effective interventions that address both biological and environmental factors simultaneously.

Overall, the literature describes the multifaceted nature of food addiction and the need for integrated approaches in both research and public health policies.

4. Methodology

This thesis uses a mixed-methods approach combining qualitative and quantitative research techniques. The qualitative part is predicated on a phenomenological lens to explore the lived experiences of bariatric surgery patients regarding FA and eating behaviours. The quantitative component provides measurable data that contextualises and supports the lived experiences explored qualitatively. While phenomenology offers deep insights into individual perceptions and meanings, the quantitative data allows for broader generalisations, integrating subjective experiences into objective measures.

Phenomenology, as a research philosophy, was chosen to uncover the lived experiences of individuals because it centres around how people perceive, interpret, and make meaning of their “lifeworld” (“*Lebenswelt*”) (Husserl, 1936). It shows from a first-person perspective the experiences patients undergo before and/or after surgery. Heidegger (1927) argued that human existence (“*Dasein*”) cannot be separated from the contexts, relationships, and histories that shape their experiences. A person’s experience of FA involves interpreting how those experiences are shaped by personal history, social expectations, and the existential challenges of change and identity. Gadamer et al. (1960) further developed the idea that understanding is always a dialogical process, shaped by the interaction between the researcher’s perspective and the participant’s narrative.

4.1 Participants

Prior to initiating the interview phase, it was estimated that a sample size of 10-15 participants would be sufficient. Other studies had used a similar sample size: Cullen et al. (2017), $n = 23$; Paterson et al. (2019), $n = 10$; Schiestl et al. (2024), $n = 16$. Finally, 16 patients participated.

4.2 Inclusion Criteria

The sampling strategy used was purposive convenience sampling. Only individuals who are bariatric surgery patients (either pre- or post-operative) were included. Adults (18+) who had undergone bariatric surgery within the last 1-5 years and those who were potential candidates for bariatric surgery. This population was selected because existing research suggests that FA may be more prevalent among individuals seeking or having received bariatric surgery compared to the general population. Focusing on this group allowed for a more targeted exploration of food addiction experiences in a context where such behaviours

are likely to be particularly relevant. This ensures that the sample is relevant to the research question about FA in this specific population. Among eligible patients, those were recruited who were available and willing to participate at the days of interviewing. It had to be done on low workload days or partly in breaks of the main researcher.

4.2 Exclusion Criteria

Participants who had severe post-surgical complications that would hinder the participation were excluded. Also excluded were those individuals diagnosed with psychiatric disorders.

4.3 Study Design

The study used a mixed method study design, consisting of quantitative and qualitative parts. The quantitative element is the YFAS 2.0 questionnaire, whereas the qualitative interview used open questions to stir a conversation about the participant's feelings, experiences and the subjective meaning they attach to it. Ethical approval (28/03/2025-06) was obtained from the internal ethics committee of the M.Sc. Lifestyle Medicine board. Informed consent was secured from all participants, and confidentiality was maintained throughout the study. Participants were reminded of their right to withdraw at any stage without penalty.

4.4 Materials

Prior to commencing with the interviews, a test run was done with a non-participant of the study. This mock-interview was set up in the same way as the actual interviews later. The questions were not changed after the interview. However, valuable feedback was received: the interviewer was encouraged to approach the interview as a conversation and build rapport with the interviewee, helping them feel more comfortable and open up more. The mock-interview also highlighted the importance of responding spontaneously to participants' answers, including asking follow-up questions and clarifying or rephrasing questions as needed to ensure understanding.

The interviews were conducted in the main researcher's current employment, an obesity clinic in Berlin. The interviews took between 17min05s and 1h12min16s. They were all conducted in German. The participants were given the German validated version of the YFAS 2.0 by (Meule et al., 2017). It measures addictive-like eating behaviours based on DSM-5 SUD criteria. The parameters assessed are loss of control, withdrawal symptoms, tolerance, unsuccessful attempts to cease the behaviour, excessive time spent on food-related activities, impact on daily life and continued use despite negative consequences. The scale

consists of 35 self-reported items rated on a Likert scale (0-7), which are later dichotomised into Y/N.

After completion of the YFAS, the participant was guided through a semi-structured interview. Open-ended questions were used to help the participant to elaborate on their relationship with food and how it relates to bariatric surgery (BS). Each interview was recorded for later transcription and double-checking.

4.5 Analysis of Qualitative and Quantitative Data

To ensure a comprehensive data analysis, the recordings of the interview were transcribed (in German). Transcripts were read multiple times to gain a holistic understanding. Significant statements and phrases related to the phenomenon were identified and translated into English. The data was grouped into themes that were mentioned often, with corresponding quotes. Textural descriptions (what was experienced) and structural descriptions (how it was experienced) were developed.

To enhance reliability, the researcher was continuously reflecting and practicing self-awareness to set aside bias to focus on the participants' lived reality. The data collection was done in a uniform manner as the interview was guided by the YFAS 2.0 Items and pre-written open-ended questions to reduce procedural variability.

The essence of the FA was synthesised by integrating these descriptions, capturing both the commonalities and unique aspects of participants' experiences. Two data sources (qualitative interviews and quantitative questionnaire) were used. This triangulation made a cross-verification of the quantitative findings possible. The data synthesis could be viewed from different perspectives through another type of data.

For the quantitative component, FA symptoms were assessed using the YFAS 2.0. The items, which were scored dichotomously (endorsed/not endorsed) for each participant according to established scoring guidelines.

Descriptive statistics were used to summarise the data. For each of the eleven diagnostic criteria, the number and percentage of participants endorsing the criterion were calculated, providing a prevalence estimate for each symptom in the sample. The prevalence of clinically significant impairment or distress was also reported.

Additionally, the total number of criteria endorsed per participant (symptom count) was calculated, and the distribution of symptom counts across the sample was summarised using

means, standard deviations, and ranges. Based on established YFAS 2.0 thresholds, participants were categorised by FA severity (none, mild, moderate, severe) according to the total number of criteria endorsed and the presence of impairment or distress.

Results were presented in tabular format, and prevalence rates for each criterion were visualised using bar graphs. Given the small sample size and dichotomous data, only descriptive statistics were reported, and no inferential statistical analyses were conducted. This approach provides a clear overview of the frequency and distribution of FA symptoms within the sample.

5. Results

This section presents the findings from a mixed methods approach, integrating both quantitative and qualitative data to provide a comprehensive understanding of FA and eating behaviours. The quantitative component uses the YFAS to systematically assess FA, while the qualitative findings, grounded in phenomenological analysis, provide deeper insight into the lived experiences and personal perspectives of participants.

5.1 Quantitative Results

The results below summarise the prevalence and severity of FA symptoms in the sample, show which criterion is most commonly endorsed, and give an exemplary diagnosis of FA according to the YFAS 2.0.

Given the small sample size ($n = 16$), the focus is on descriptive statistics and prevalence reporting rather than inferential statistics, which are not reliable with a smaller sample size. The dichotomous nature of the data limits the use of parametric tests. Most published YFAS 2.0 studies use descriptive statistics for symptom prevalence and diagnosis, especially in small or clinical samples (Hauck et al., 2017). This is both methodologically sound and in line with best practices in the field.

The YFAS 2.0 has 35 items that each correspond to a DSM-5 diagnostic criterion of an SUD (figure1, table 5). One endorsed item means that the criterion is met.

The item most commonly endorsed was that of the consequences of overeating. Participants named their obesity but also other conditions linked to overeating and/or obesity. The consequences are closely followed by the amount of ingested food, and impairment/distress caused by the overeating. People considered the quantity of food they consumed abnormal, and frequently felt bad because of that. The least endorsement got activities and obligations. Those two criteria reflect if participants were not able to do certain activities anymore and/or failed to meet their obligations in their everyday life.

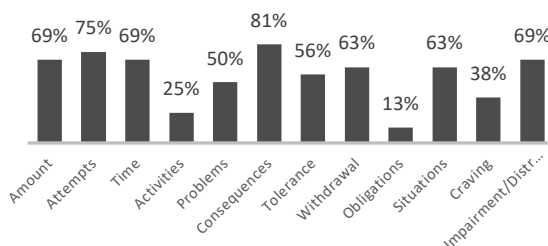


Figure 1: Symptom Prevalence

Criterion	Corresponding Items	Endorsed (n)	Prevalence (%)
Amount	1, 2, 3	11	69
Attempts	4, 25, 31, 32	12	75
Time	5, 6, 7	11	69
Activities	8, 10, 18, 20	4	25
Problems	9, 21, 35	8	50
Consequences	22, 23	13	81
Tolerance	24, 26	9	56
Withdrawal	11, 12, 13, 14, 15	10	63
Obligations	19, 27	2	13
Situations	28, 33, 34	10	63
Craving	29, 30	6	38
Impairment/ Distress	16, 17	11	69

Table 5: Criteria Endorsement

The diagnostic threshold for FA is ≥ 2 symptoms + impairment/distress. Table 6 shows that out of 16 participants, ten (62.5 %) can be classified as addicted to food according to the YFAS 2.0. The mean symptom count is 5.94 (SD = 3.82).

Participant	Number of Endorsed Criteria	Impairment/ Distress (Y/N)	FA Diagnosis (Y/N)	FA Severity
1	0	N	N	
2	2	N	N	
3	0	N	N	
4	6	N	N	
5	7	Y	Y	Severe
6	1	N	N	
7	9	Y	Y	Severe
8	10	Y	Y	Severe
9	8	Y	Y	Severe
10	1	Y	N	
11	9	Y	Y	Severe
12	7	Y	Y	Severe
13	9	Y	Y	Severe
14	8	Y	Y	Severe
15	9	Y	Y	Severe
16	9	Y	Y	Severe

Table 6: Food Addiction Classification

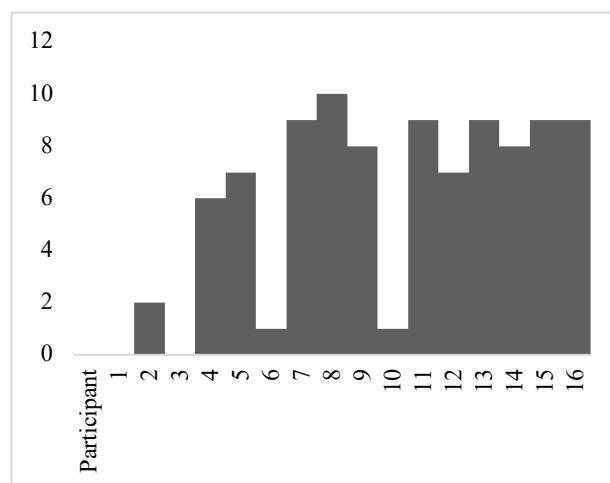


Figure 2: Participant Symptom Endorsement

The histogram in figure 2 shows a bimodal distribution. Most participants either endorsed very few or a very high number of criteria, with relatively few in the mid-range. There are clusters of participants endorsing very low numbers of criteria (0–2) and another, larger cluster endorsing high numbers (7–10).

The results should be interpreted cautiously due to the limited sample size. The percentages represent patterns, not population estimates as a small *n* limits the statistical power. The results are illustrative but not generalisable.

5.2 Qualitative Results

In the following, the findings from semi-structured interviews, organised by the major themes and sub-themes that emerged from the data, are presented. Each theme captures a distinct aspect of participants' lived experiences with FA. Selected participant quotes are included to illustrate and give voice to these experiences. An overview of these themes is provided in table 7. All quotes of the corresponding themes and sub-themes are included in a table in the appendix.

Reasons for overeating	Consequences of overeating	Cravings	Definitions for Food Addiction	Treatment Approaches	Social Influences
Relieve physical symptoms	Abdominal Distension	Craving Certain Foods	Participants' Definitions	Therapy/Psychological Support	Maintaining Social Priorities
Relieve emotional distress	Physical Symptoms	Acquiring the Craved Foods	Self-identifying with Food Addiction	Bariatric Surgery	Self-imposed Social Isolation
“Reizsuche”	Influences on Everyday Life	Trigger Foods		Lifestyle Medicine	Problems with Friends
Family history	Self-harm	Sugar & Chocolate		Dieting	Problems with Family

Childhood	Low Self-esteem	Fear of Judgement, Stigmatisation & Prejudices
Food environment	Problems with portion size regulation	

Table 7: Themes and Sub-Themes of the Qualitative Analysis

A list of the addictive foods that were named by participants during the interview as well as histories with SUDs or comorbidities that were disclosed voluntarily during the interview is shown in table 8:

Addictive Foods	Histories/comorbidities
Bread	Smoking
Rice	Autism
Cheese	Depression
Biscuits/Cookies	Diabetes type 2
(Dark) Chocolate	PCOS
Potatoes/Potato salad	Obesity
Sweets	Back, knee, shoulder problems
Crisps	Fatty liver
Pudding	Insulin resistance
Pasta	Alcohol use disorder
Jellies	Familial obesity
Butter	Bulimia nervosa
Ketchup	
Cola light	

Table 8: Addictive Foods and Co-Morbidities

The first theme explores the **reasons** participants named **for** their **overeating** behaviour, one of which being to **relieve physical symptoms** (of withdrawal). Those feelings of withdrawal were mostly connected to not consuming carbohydrates. Participants stated that the lack of food and/or carbohydrates influenced their mental capacities or created physical discomfort.

“I always had the feeling that it had an influence on my concentration.”

“When I don’t have sugar three days in a row, I [...] get a headache.”

Another very common reason for overeating was the **relief of emotional discomfort**. Mostly connected to negative emotions, participants stated that when they felt sad, angry, tired, or overwhelmed, they used food to cope with those feelings. One participant even called her typical binge foods “*happy maker*.” Eating was a way to suppress certain emotions, as well as to mend “*boredom*.” Participants also stated that feelings of nervousness or stress arose when they were not able to eat a certain food. In addition to that, some co-morbidities appeared in connection with emotional eating. One participant had “*depressive tendencies*” (self-classified) and another a diagnosed alcohol addiction.

Participants described different ways in which eating functioned as a strategy for coping with emotional discomfort. For some, eating was a way to suppress or escape from difficult emotions, even when they were aware of the negative impact on their health or social life.

Several participants reflected that their relationship with food was not about physical hunger, but rather about managing or regulating their emotional states, e.g., *“trying to make a situation better through eating.”*

Some traced these patterns back to childhood or adolescence, noting that emotional eating persisted regardless of other healthy behaviours, such as regular physical activity. Others described how food provided a sense of comfort or relief, helping them to calm down during stressful or upsetting situations. In certain cases, participants recognised that their eating habits served as a substitute for other forms of coping, sometimes even replacing previous addictive behaviours. These accounts highlight the complex and often ambivalent role of food in participants’ lives, serving both as a source of comfort and as a means of dealing with emotional challenges.

“[...] in moments when I was sad. It could be anything like a fight with my family...or even now with my husband I think ‘oh, I need this now. [...] and it goes that far that if I don’t have the food at home, either I order something or I go out and buy only that one item and go home.”

“After my last relationship ended, I lost myself a little bit in eating. I gained 12 kg which I didn’t even realise. I grabbed everything that I fancied when grocery shopping, mostly unhealthy stuff. [...] I thought I needed that.”

“It was when my son was born with a disability that I started to eat everything. [...] I am also an alcoholic, and I suppose it’s a shift of the addiction. I am ten years sober, but I still grab sweets and stuff myself.”

One participant specifically called her reason for overeating **“Reizsuche”** – which is a German compound noun of stimulus and search. She was looking for a specific stimulus of sensation. This reason was only called once across the sample, but she was very sure of it being the only reason for her overeating. There was no inclination towards emotional eating or a specific childhood conditioning that formed this habit.

“A piece of butter, mayonnaise, an egg, a piece of chocolate, ketchup. Something that relieves the sensation, which I didn’t find. [...] Then I didn’t only have one spoon but a second and third. [...] I felt myself via this sensation-search [...] I only felt my body then.”

Another sub-theme is the **food environment** that is omnipresent. That is why one participant wondered why he “[...] *only [ate] the bad foods.*” Trigger foods and products that are designed so that one cannot stop are available nearly everywhere. Through societal food labelling, it was also quite common for foods to be perceived as “good” and “bad” or “making you fat” and “making you thin.” The abundance of easily accessible foods led to internal struggles about making healthy choices. Many participants were aware of the difference between nutritious and less nutritious foods yet still found themselves drawn to unhealthy options due to persistent cravings. This ongoing temptation often resulted in eating foods they knew were not beneficial for their health, illustrating the powerful influence of the food environment on their eating behaviours.

“[They are] cheap [...] and you can get them everywhere.”

“Crisps, fatty foods, and jellies, those are my guilty pleasures which I crave often.”

Even though it is not the most important factor, genetics and **familial history** play a role for obesity, SUDs, eating disorders (EDs) and multiple other conditions and illnesses. Participants also reflected on that and recognised it as a risk factor.

“My dad weighed [...] at his heaviest. He suffered a lot because of that. [...] Maybe I considered [...] [obesity] to be something normal.”

“I always was predestined to be addicted, be it food, cigarettes, like I was addicted to nasal spray for ten years. [...] my parents were also overweight.”

Similar to the familial history, a participant’s **childhood** and their upbringing was mentioned. As with most psychiatric conditions this is a major factor when it comes to the development of FA. One participant also mentioned an incident in a local supermarket where she went daily to buy chocolate: “*When I was a child a woman working the cashier pointed that out to me.*” Other participants described how feelings of insecurity and emotional overwhelm during childhood contributed to their relationship with food. Some recalled being left alone to manage difficult tasks and lacking support, which led to turning to food for comfort. Simple childhood pleasures, such as enjoying specific foods, were also mentioned, but the emphasis was on how early emotional experiences and family dynamics shaped long-lasting eating behaviours. These formative experiences laid the groundwork for using food as a source of comfort and emotional regulation later in life.

“I think there is a reason why [food] gives you so much. When I think about it now, I always went to [food] in emotional situations so I must have gotten something from

it. In the past I was probably rewarded with it. [...] Something has probably triggered my fixation to it. I never had a problem with portion sizes. I always hear it from my husband: 'You're not eating that much.'"

"When I was young, my parents told me you have to finish this, you're not getting up from the table before you have finished your food. That way we never wasted food. [...] nobody ever said, 'if you can't finish that you don't have to.'"

The next category delves into the **consequences** that result from overeating. Frequently named were here that the physical appearance changed due to the eating habits. This in turn caused participants' emotional stability to falter and thus a bad body image and low self-worth. Also, practical implications were named such as sweating quicker because of the overweight or not being able to squat to sit. Firstly, immediately after overeating, participants tended to feel an **abdominal distension** – a discomfort in the stomach region due to the ingestion of too much food. Despite recognising the physical limits, participants continued eating, resulting in pronounced stomach fullness and discomfort.

"I would actually say, that feeling that I had when I ate too much, was what I needed even though it was hurting. You're super-full, [...] overly full and that compensated for something else I would say."

"I was invited to a birthday party, there was a lot of tasty food, and I wanted to try everything. [...] I ate too much even though I knew that it was too much, even though my stomach signalled that it was too much, but I kept going."

Physical symptoms after overeating were also common. Participants said it always impacted the time after the overeating negatively, making it hard to overcome the emotional discomfort. Participants described noting that overeating often left them feeling too full to engage in any activities or social events. The resulting lethargy and lack of motivation led to withdrawal from participation in daily life. However, not all experiences were negative; one participant mentioned that, at times, overeating and the sensation of a full stomach could be associated with temporary feelings of happiness and satisfaction.

"I felt lethargic after [overeating] and very energy deprived."

"Yeah, [I] felt awful. [My] stomach was so full, I couldn't move, I only wanted to rest."

Participants also often worded **implications** and **impairment** in their **everyday life** that was caused by overeating – either directly or indirectly. Most complaints concerned joint problems, impaired breathing, and mental disorders. One participant was annoyed that she couldn't keep up with her husband in sports “[...] but that didn't keep me from overeating [...] every night 300g chocolate. Every night. It was like an addiction. There I was, looking forward to the 8 o'clock news, my chocolate calling for me.” Even though participants knew that their eating patterns were deteriorating for their mental and physical health, they continuously engaged in them: “My body is the result of my eating habits.” Other participants described how the consequences of overeating and resulting weight gain influenced many aspects of their everyday life. Several mentioned that their weight influenced their routines and thoughts, such as waking up at night with cravings or feeling compelled to eat. Social situations, like eating out or shopping for clothes, often became sources of anxiety and discomfort due to fear of judgment or the inability to find suitable clothing. One participant reflected on the emotional toll, including shame, avoidance of public activities, and regret over missed opportunities with loved ones, such as spending time outdoors with children. Many also reported feeling the need to prove themselves more than others to counteract negative stereotypes, and described being treated differently or unfairly because of their weight.

“Yeah, well the result of it. You don't fit into anything. On the plane you sit squashed together like sardines. You always have to ask for a seat belt extension. Everywhere I went, I wondered ‘Will I fit? Can I sit in this chair? Will it hold? What do people think? Did I dress correctly? Where do I get clothes?’”

“I am thinking of comments...and also realising that you can't do certain activities because of being overweight; it's less about the food but more about the [result] of being overweight and then I don't know, maybe you can't go hiking or something. From the beginning you know I can participate but I can't keep up with the others. And then you start limiting yourself.”

Self-harm was another sub-theme that arose through talk with participants. As with the previous one, this was not a common but severe part of FA that only two participants experienced. When asked if she considered her overeating as a form of self-harm, a participant answered: “Definitely self-harm. My work habits, my exercise habits, my eating habits.”

In most EDs as well as in FA, **low self-esteem** is a classic indicator. Participants connected their self-worth to looks, or prioritised other people's well-being over their own. They described how overeating, and its consequences negatively affected their self-esteem and self-perception. Some participants felt like they were failing as role models, especially in professional settings where they were expected to set a healthy example. Others reported a critical focus on their physical appearance, such as feeling ashamed when seeing unflattering photos. These experiences contributed to ongoing dissatisfaction with their bodies and reinforced feelings of inadequacy and low self-worth.

"My mum always [accepted] me the way I was, in school too, the way I looked, supported me with everything. She thought I was pretty. I didn't. The same problem I have with my wife now: she loves my body, I hate it."

A very common sub-theme that emerged as a consequence of overeating were **problems with portion size regulation**. Participants felt like they had to empty the bag or finish the dish or clear the plate. They felt almost compelled and found it hard to stop, even if it led to physical discomfort. Some reflected on their inability to regulate portions, admitting they had never really learned how to do so. There was also mention of the internal dialogue and intentions to limit intake – such as planning to eat only a small amount – but ultimately being unable to stop. Additionally, a constant preoccupation with food choices and meal planning was reported, further complicating efforts to manage portion sizes and contributing to habitual overeating.

"After hosting some friends at home, I was cleaning up and I thought 'Oh, there is that tasty potato salad, I could finish that.' And I did. Even though I was full, more than full, I continued eating."

"Last week for example, I felt good. I went out with my friends and got dinner. Afterwards, I had six doughnuts. [...] At first, I only had one, then I got faster and faster and I had to finish them all."

"The bag had to be emptied even though I wasn't hungry, and it didn't taste good anymore. It was only okay when the bag was empty ... so stupid."

As a third theme it became clear that all participants had strong **cravings**. The foods that were craved differed from person to person. One participant was **craving certain foods** *"especially when I knew I didn't have them."* Participants also tried to resist the cravings or mend them with the help of other foods which rarely proved to be successful. They were

also experiencing loss of control and felt powerless, describing how cravings would immediately prompt them to prepare and eat the desired food, rarely delaying or resisting the urge. Some felt that their hunger or cravings were in control of their actions, making it difficult to regulate their food intake. There was also a recurring theme of particular foods, especially chocolate, being repeatedly craved and consumed, with the realisation in adulthood that such cravings had always centred on specific items.

“When I wanted a chocolate bar, I said to myself, ‘no, have an apple.’ And then I had the apple but still wanted the chocolate bar. And I had it. [...] I couldn’t not do it. I just had to. [...] This inner feeling of discomfort and annoyance, you get into a bad mood, get a headache. And your thoughts only circle around [food], like ‘I need this now.’”

Acquiring the craved foods was the second step. For some, the effort required to obtain a craved food served as a barrier, leading them to settle for whatever was available at home instead of seeking out the craved item. Others said they would go to the shop and purchase this one exact item that they wanted. One participant questioned if the difficulty in resisting cravings was due to a lack of willpower or an indication that additional support, such as therapy, might be needed. These experiences reveal how cravings can drive both immediate action and internal conflict, influencing not only what is eaten but also the strategies used to cope with or manage these urges.

“I really got up at night and made my way to the petrol station and bought Cola light. It always had to be in reach.”

Participants also worded concerns about so-called **trigger foods**. The urge to overeat was initiated by those. Certain foods or situations act as triggers, prompting strong urges to eat and making it difficult to maintain healthy behaviours. Recognising and openly discussing these triggers with others has made it easier for one participant over time. Her openness was met with understanding and support, contrary to previous expectations.

“For three weeks I was eating healthy and had the feeling that I was losing weight but then I ate something sweet...and then you start again you know? [...] that was the same as when I stopped smoking: after a few months I smoked one cigarette and then I started again.”

Sugar and **chocolate** are the most common trigger foods and/or cravings. They are hyperpalatable and easy to reach. Participants noted that their difficulties with portion size

control rarely extended to other types of food. The aftermath of consuming sugary foods often included feelings of fatigue, disappointment, and the sense that the day was ruined. Some also noticed physical symptoms, such as headaches, when they had gone several days without chocolate, highlighting both the psychological and physiological pull of these foods.

“It really is only sugar [that I am addicted to]. I definitely had some sort of sugar addiction and probably still do. [...] I think it is severely underestimated. Only now people started to think ‘hey this could really be an addiction.’”

As part of the interview, participants were asked to **define FA** according to their own experience. It was noticeable that participants often focussed on the outward appearance of a person that is addicted to food, and less emphasis was put on the psychological aspects. Only one person also considered that FA can be a silent condition, which cannot be determined by someone’s outward appearance. Symptoms to describe FA often included its use as a way to calm oneself or cope with difficult emotions, much like other forms of addiction such as alcohol, nicotine, or gambling. Many see it as a compensation for unresolved feelings or as a form of self-harm, where eating becomes a response to emotional distress rather than physical hunger. The focus is not always on specific foods; for some, any type of food can serve as the object of addiction, with the main concern being the act of eating itself. Emotional dependence on food is seen as a source of comfort and support, sometimes accompanied by constant thoughts about eating. There is also an awareness that FA does not always result in visible overweight, and that societal judgments can be misleading, as medical conditions may also contribute to obesity. Feelings of shame and secrecy often accompany this behaviour.

“I would classify it as an addiction, because I realised throughout my life that I can’t abstain from [chocolate].”

“[...] they’re trying to fill a void. [...] Something is missing and they’re replacing it with food.”

“In secret. [...] The person doesn’t have to be overweight. [...] You can’t think about anything else. You go out and buy things, no matter the time. [...] Often ashamed. [...] Since covid and working from home it probably became more and more.”

Participants were also asked if they **identified with the term FA**. Only a few people were willing to give an answer to the question.

“I can relate. It is like alcohol or drugs.”

Treatment options were also discussed in the interview. Participants were asked to give their opinion of the different treatment methods. The first domain that arose was **therapy** and psychological support. A topic that should be addressed in therapy according to the participants is the shame connected to overeating and the consequences of it. Participants described therapeutic approaches as requiring significant mental effort and ongoing self-examination. Taking time for oneself and prioritising personal needs is seen as essential, even if it feels egoistic. Addressing and overcoming feelings of shame is repeatedly mentioned as a crucial aspect of the therapeutic journey, with a focus on long-term self-work rather than seeking immediate solutions.

“I think up to a few years ago I didn’t even realise that I did develop an addiction [...] that is obviously connected with a lot of shame. [...] I think it is important that this feeling of shame is addressed, that you start working on yourself and say, ‘hey it takes time, it doesn’t change immediately so don’t stress about it, keep going and don’t try to go for quick fixes.’”

A prominent treatment method is **bariatric surgery**. It treats the overweight or obesity, and possibly FA. Participants who had undergone BS named complete changes in their appetite and hunger feelings. Although there was mostly positive feedback, a number of participants also said that the surgery is only part of the recovery, and a lot of work still needs to be done on the mindset. Many described BS as a valuable intervention that lessened the constant influence of food and cravings, though it did not entirely resolve underlying eating habits. Some expressed regret at not pursuing surgery sooner, recognising its positive impact on their quality of life and health. Surgery was frequently described as a necessary support to manage eating behaviours that felt unmanageable alone. However, participants consistently emphasised that lasting change required ongoing mental and emotional work, as surgery could not address the individual reasons for overeating or the psychological aspects of FA.

“I wouldn’t say that I am healed in terms of my eating habits. [...] but at least it doesn’t influence me 24/7.”

“I always say it is a crutch. I don’t want to know what would’ve happened [without it]. I’d probably be in a wheelchair.”

“[The surgery] was only a tool. [...] You have to work on the changes in your mind too. [...] For everyone the reason they are overweight is different, and they have to find their own way in treating it.”

As another important factor, a **lifestyle** change was named. Yet, it was noticeable that only one participant realised the urgency and simplicity of such an intervention.

“I think diets do work if you want to lose weight short-term for an event. But I think you need to be the right kind of person with a lot of discipline. From where I stand now, I think a long-term shift of the lifestyle is necessary, not a diet. [A lifestyle change] you can keep up for the rest of your life.”

Participants also claimed they had done „countless” **diets**. Some were experiencing the yo-yo effect where the weight bounces back, and more, after having lost weight. In general, the connotation with which participants talked about dieting and attempts to quit overeating was quite negative. All participants described a lifelong pattern of trying different diets, often beginning in adolescence, with repeated cycles of initial weight loss followed by regaining the weight. Attempts to control eating through restriction frequently led to relapses and ongoing cravings, especially when certain foods were eliminated entirely. Dieting was often experienced as a battle against persistent urges, with some reporting physical symptoms and significant discomfort during restrictive phases. There was a recurring sense of failure and disappointment when diets proved unsustainable or did not fit into everyday life, leading to self-criticism and diminished self-esteem. Despite repeated efforts and intentions to start fresh, many found that dieting alone was not an effective or lasting solution.

“In the last 30, 40 years I lost around 20-30kg each time [I dieted] and within one year regained it all. It’s like that since I was 17.”

“I [...] restricted myself, which I often couldn’t do very long and got annoyed with myself and my behaviour. [...] I gave in at some point and ate something which made me feel satisfied at first but not really better because there still was this frustration about giving in.”

“[There are] days where you tell yourself ‘Today is the day that I start, now I am eating healthy’ and then you realise it isn’t working because, I don’t know, it doesn’t fit your everyday life, or you don’t plan it well enough. And then you’re disappointed. [...] I wonder, why I couldn’t do it. It can’t be that hard.”

Lastly, the theme of **social influences** became clear. Participants’ answers were quite heterogeneous in this category, ranging from an extroverted social appearance to complete isolation. Some participants could still **maintain social connections**. They were hiding their struggle or were not impacted on that level by their behaviour: *“I would say they [friends]*

didn't even realise.” Some participants felt impaired in the physical sense so that they could not participate in hobbies that they used to engage in.

“I couldn't do certain hobbies anymore, for example horseback riding because I was too heavy. That was quite frustrating but otherwise I continued participating. I didn't feel very comfortable, but I did because I didn't want to be an outsider.”

One participant gave a detailed description of her **self-imbued social isolation** that was caused by her overeating habits and the consequences that result from them.

“Yeah, that was sometimes the case, I thought ‘nah, I better not go there.’ Or another time I cancelled plans with friends because I was so anxious. I always went to work. But when we were supposed to go out, I thought ‘What do I wear? That's too tight.’ Well, okay [you'll] say you're ill. [I] sent a message saying, ‘I can't, I'm ill.’ [...] Yeah, it's such a compulsion in this situation to cancel even though I didn't want to. But I often felt so uncomfortable in a situation that it was a relief not to go. [...] Another time there was a work Christmas party and I already thought ‘oh, I don't want to go.’ I got dressed and was thinking ‘please let something happen so I don't have to go.’ And then there was clear ice on the road, and I was so glad I could stay home.”

It also became clear that participants felt like there were **problems with friends** that were being caused by their overeating. Some described how friends would simply tell them to “*just stop it.*” Eating became a controversial, almost taboo topic.

“When I am out with friends, they watch me. I don't eat what I crave then. I worry what they think when I order. And I don't order what I would like. [...] one of my friends said, ‘That was more than 200 g that you had.’ And I'm like ‘just let me eat.’”

Even more so, participants named having **problems with their family**. That could be a mother, a brother, an ex-husband, a child, or both parents. One example being a mother who was very cautious of what to eat and how that influenced the way she looked “*She always said something like ‘when you're overweight later, don't put that on me,’*” The participant talked to mother about comments like this as an adult and her mother said she cannot remember; for the participant it was a very formative, moulding event but she said her mother did not think much of it. Family relationships were often strained by issues related to eating and body image. Some recalled never feeling thin enough to meet parental expectations, while others described siblings discussing their weight concerns openly with parents,

sometimes in their presence, which was later denied. Children in the family also commented on eating habits, expressing concern or judgment. These dynamics frequently led to arguments, emotional distress, and a tendency to misattribute bad moods to unrelated causes, masking the underlying dissatisfaction with eating behaviours and self-image.

“My brother [...] talked to my mother about me while I was sitting at the table, saying, ‘well, she has to go to a clinic, she has to lose weight, that’s not good for her.’ He says that never happened.”

“My mum realised that I suffer because of [my eating habits]. I often let my feelings out on her because I was so discontent with myself. We often fought then. In general, I was in a bad mood often but put that down to other things when [...] asked why.”

Lastly, the sub-theme of fear of **judgement, stigmatisation and prejudice** is a topic that was named often by participants. They talked about experiences from their life with eating and body image. Many participants expressed a strong awareness of being judged by others due to their weight, feeling that people often assumed overeating was the cause of their size. This led to a heightened sense of self-consciousness in social situations, such as meals with colleagues, friends, or family, where they felt scrutinised for their food choices and portion sizes. The fear of negative judgment, e.g., being labelled or even insulted in public, resulted in behaviours like holding back at the table, eating minimally in front of others, or only choosing “acceptable” foods like salads at work. Some described eating in secret to avoid criticism, while others felt pressure to control their intake in public but would later eat alone. This constant anticipation of others’ opinions contributed to diminished self-confidence, avoidance of certain activities, and even impacted intimate relationships. Feelings of isolation and frustration were common, as participants internalised blame for their struggles and sometimes withdrew from social participation altogether. The experience of being watched or judged, whether real or perceived, shaped daily routines and reinforced cycles of restriction and overeating, ultimately centring much of their everyday life around food and body image concerns.

“It was definitely [deteriorating] for my self-confidence, like how I don’t want my partner to see me...It was definitely a hindrance for my sexual development, all the bodily aches, being out of breath quickly. Or not being able to do activities like others and because of that thinking ‘I won’t join in because I can’t do it as well as the

others.' It's an isolation that's self-inflicted. You know it is your own fault which makes you even more annoyed with yourself."

"There were situations where I thought 'oh, I could have another portion' but I just controlled myself in that moment and thought 'no, not another big portion. It was a lot of pressure. [...] but I would eat in secret, when someone went to the bathroom and had some leftovers [on their plate]."

"At work I couldn't eat the way I wanted. I had to wait for the breaks. Then I wolfed down everything, and afterwards [my stomach] was hurting and I was feeling tired. [...] My everyday life was centred around food."

Participants described overeating as a way to cope with emotions, often starting in childhood and shaped by family and social environments. Many struggled with strong cravings, especially for sugar and chocolate, and found it difficult to control portion sizes, sometimes eating in secret or beyond fullness. The consequences of overeating affected their daily lives, leading to physical discomfort, low self-esteem, and social withdrawal. Efforts to manage overeating included dieting, therapy, and in some cases, bariatric surgery, but lasting change was challenging and often required ongoing self-reflection and support. Social influences, including judgment from friends, family, and society, played a significant role in shaping eating behaviours and self-image.

6. Discussion

In the following, two key areas are going to be explored: the treatment option of FA and the ongoing debate of the conceptualisation of FA. It is a term that has evolved majorly as it is a multidimensional phenomenon that overlaps with EDs and SUDs.

6.1 Treatment

As of 2025, there is no conclusive approach in treatment or prevention of FA. There are multiple methods that treat obesity, EDs, or psychological conditions that can be partly applied to FA as each one links to FA.

6.1.1 Invasive Methods

In cases where lifestyle modifications alone are insufficient, an invasive treatment approach is required. Among the most effective strategies for significant and sustained weight loss are bariatric surgery and pharmacological therapy. Pharmacological treatments are less invasive than surgery, and target the underlying physiological mechanisms.

Bariatric surgery

To understand how bariatric surgery works, the simple mechanism of weight loss and its weight set point need to be clarified. The weight set point is the body's biologically preferred weight range, maintained by physiological mechanisms that counteract weight changes. The hypothalamus uses signals from hormones to regulate hunger, energy intake, and energy expenditure. When the body weight deviates from its current set point, the body responds with compensatory mechanisms (e.g. increasing appetite or decreasing metabolism) to return weight to its preferred range. The weight set point can be influenced by genetic factors, early-life environment, and possibly long-term lifestyle changes, but it is generally stable and difficult to change (Keesey & Hirvonen, 1997).

Substandard procedures include the **gastric band**, **gastric balloon**, and **jaw wiring**. The intra-gastric balloon is a plastic balloon which is inflated in the stomach. It is a non-surgical method used to reduce space in the stomach, helping patients feel full after eating less. The balloon is temporary and usually left in place for up to six months. The gastric band is slung around the stomach walls. It is placed around the upper part of the stomach to create a small pouch above the band, limiting how much food can be eaten at one time (Dilektasli & Demir, 2021). Jaw wiring restricts the ability to eat solid foods, which forces patients to consume a

more liquid diet (Garrow & Gardiner, 1981). All have shown poor long-term results as the weight set point of the patients has not been changed (Jenkinson, 2020, p. 103).

The **sleeve gastrectomy** is a surgical procedure where about 80% of the stomach is removed, leaving a narrow, tube-shaped stomach (or “sleeve”). This reduces the amount of food the stomach can hold and decreases hunger by lowering levels of the hormone ghrelin. For the **gastric bypass**, a small pouch at the top of the stomach is created and connected directly to the small intestine, bypassing most of the stomach and the first part of the small intestine (*Health Encyclopedia - University of Rochester Medical Center*, n.d.). Both work by changing the weight set point and are considered very safe procedures. Ghrelin decreases considerably while peptide-YY and glucagon-like peptide-1 (GLP-1) are elevated after the procedure. (Jenkinson, 2020, pp. 104-5).

On top of that there are two more bariatric surgeries: the **biliopancreatic diversion with duodenal switch** and the **single-anastomosis duodeno-ileal bypass with sleeve gastrectomy** (*Health Encyclopedia - University of Rochester Medical Center*, n.d.). Those will not be discussed further as the main researcher’s employer only offered the gastric bypass and the sleeve gastrectomy.

A bariatric surgery procedure is the most effective treatment for obesity and its comorbidities. Still, people who undergo bariatric surgery still have suboptimal weight losses and may struggle with obesity after the surgery (Ivezaj et al., 2017). Thus, prevention is key.

Yet, participants said that they could not have achieved weight loss without BS. Literature states that the prevalence of FA decreased after BS (Pepino et al., 2014; Sevinçer et al., 2016). Those findings were confirmed by some participants. Cravings were less frequent or severe, and the consequences of overeating were lessened or even reversed. All in all, BS received rather positive feedback. Participants claimed that they gained a lot of quality of life back. They had a so-called “reset point” and were made aware of their condition and the outlook for the future if nothing changed.

A reason for BS also improving FA symptoms may be the mended dopamine D2 receptor availability. Steele et al. (2010) investigated this after a Roux-en-Y gastric bypass surgery. Post-surgery, there was an increased dopamine D2 receptor availability in all participants. This increase appeared to be proportional to the amount of weight lost. BS may help to

counteract the downregulation of the dopamine receptor availability and thus the overeating that is facilitated by this.

FA may be associated with poorer post-surgical weight loss outcomes (Clark & Saules, 2013). During the interview it became clear that some participants were not content with their weight loss results. Since FA frequently co-occurs with obesity, it may contribute to treatment resistance, including weight regain post surgery (Constant et al., 2020). Participants mentioned struggles with portion sizes even after the surgery. This may be due to a lack of psychological support during the time of adjustment after the surgery. In this time patients need to learn to listen to their body (i.e. hunger signals, satiation signals) anew. Since BS only addresses the physiological result of overeating and not the underlying psychological mechanisms, which – in some cases is FA – the improvement in quality of life is only mediocre. Participants that received a multi-component treatment consisting of BS, therapy, and nutritional counselling, and had a firm support system claimed they felt the most improvement in their eating behaviour as well as their obesity problem.

As measured by the YFAS, FA is strongly associated with psychological impairments such as depression, impulsivity, EDs, BED, and poor self-control (Ivezaj et al., 2017; Gearhardt, White, et al., 2011). Those co-occurrences were named by participants which they related to their eating behaviour. Participants who did seek out psychological support, said they feel a form of calm around food and eating, which they had not experienced in a long time.

BS may be a useful treatment for the co-occurring obesity that is the result of FA. To make BS a useful treatment option for all patients, multiple domains should be addressed in the treatment process alongside the surgery.

Pharmacological Treatment

There is evidence that supports pharmacological treatment of FA applying approved medications for obesity. They work by targeting neurohormonal pathways, and manage changes in leptin and ghrelin levels and reductions in metabolic rate after dieting. This helps to overcome biological adaptations that make sustained weight loss challenging (Yarnell et al., 2013). Pharmacotherapy should be part of a multidisciplinary plan with ongoing lifestyle support, and special attention to the brain's reward system in managing overeating.

Possible medication include short-term appetite suppressants (phentermine and diethylpropion), as well as long-term options (orlistat, phentermine-topiramate, bupropion-naltrexone, liraglutide, semaglutide, and tirzepatide). Weight loss with these medications

ranges from 5–23% of total body weight (Yarnell et al., 2013). Results vary by individual, and some drugs have been withdrawn due to safety concerns.

Phentermine and diethylpropion are short-term treatments (usually 12 weeks). Phentermine is an indirect-acting sympathomimetic. It increases the release of norepinephrine (and to a lesser extent dopamine and serotonin) in the brain, particularly in the hypothalamus, leading to appetite suppression (Healthline, 2019). Diethylpropion is a sympathomimetic stimulant. Its active metabolite increases neuronal catecholamine (norepinephrine and dopamine) levels by inhibiting their reuptake, suppressing appetite. Activates the sympathetic nervous system, reducing hunger and sometimes increasing energy expenditure (WebMD, 2024).

Phentermine-topiramate uses phentermine and topiramate, which is an anticonvulsant that contributes to weight loss through mechanisms that may include appetite suppression and increased satiety, though the exact pathways are not fully understood (Jordan et al., 2014).

Orlistat is a weight loss medication that works by inhibiting pancreatic and gastric lipases, the enzymes responsible for breaking down dietary fat in the intestine. As a result, about 30% of the fat consumed in the diet is not absorbed and is instead excreted in the stool, leading to reduced calorie intake and weight loss (EMA, 2012).

Bupropion-naltrexone combines a dopamine/norepinephrine reuptake inhibitor (bupropion) with an opioid receptor agonist (naltrexone). It works as an appetite suppressant and reduces food cravings, resulting in clinically significant weight loss and improved eating control (Sherman et al., 2016).

Liraglutide is a GLP-1 receptor agonist used for type 2 diabetes treatment and weight management. It works by enhancing insulin secretion, suppressing glucagon, slowing gastric emptying, and reducing appetite (FDA, 2024).

Semaglutide is a GLP-1 receptor agonist that improves glycemic control, induces substantial weight loss, and reduces cardiovascular risk in people with obesity or type 2 diabetes (Mahapatra et al., 2022). Some participants have received this weight management medication under the brand name of Wegovy. Feedback was generally positive although one participant mentioned negative comments from family members. It was frowned upon that she was “starving her body” by using this weight loss aid.

Tirzepatide is a dual GLP-1/GIP receptor agonist that controls blood sugar and induces weight loss. It is approved for type 2 diabetes and chronic weight management, with

additional benefits in cardiovascular and kidney health. Its main side effects are gastrointestinal, and it is contraindicated in certain rare endocrine cancers (Heise et al., 2023). Multiple participants received this medication under the brand name Mounjaro. There was mediocre to very positive feedback. One participant said she would have answered very differently to the YFAS if it were not for the Mounjaro injections. She said her overeating habits were influenced majorly by the medication.

Lisdexamfetamine dimesylate (LDX) is a central nervous system stimulant that was developed for the management of ADHD. It has shown promising results in addressing pathological overeating behaviours and has been approved by the US FDA for the treatment of BED in adults (Ratković et al., 2023). In the EU it is only approved for ADHD treatment (IQWiG, 2013).

LDX works by regulating neurotransmitter activity in the brain. After ingestion, LDX is converted into its active form, dextroamphetamine, which inhibits the reuptake of dopamine and norepinephrine from the synaptic cleft while simultaneously increasing the release of dopamine, norepinephrine, and serotonin. This modulation of brain chemistry is believed to help reduce the compulsive urge to overeat, making it potentially beneficial for individuals struggling with FA. However, it is important to note that LDX should not be used in individuals with a history of addiction to substances in the amphetamine class, due to the risk of misuse or dependency (Ratković et al., 2023).

Table 9 provides a summary of those findings as well as their efficacy in applying them to FA treatment:

Medication	Efficacy for Food Addiction Treatment	EU-Approval	References
Phentermine	No direct evidence for FA	No	(EMA, 2021a; Kalyanasundar et al., 2016)
Diethylpropion	No direct evidence for FA	No	(EMA, 2021a; Kalyanasundar et al., 2016)
Phentermine-topiramate	No direct evidence for FA; reduction in binge eating & BED psychopathology which overlaps largely with FA	Sweden, Denmark, Finland, Iceland, Norway, Poland	(EMA, 2022b; Safer et al., 2020)
Orlistat	No direct evidence for FA; reduced BED scores	Yes	(EMA, 2017; Golay et al., 2005)
Bupropion-naltrexone	No direct evidence for FA; reduced binge eating frequency & BED psychopathology	Yes	(EMA, 2018; Grilo et al., 2022)
Liraglutide	No direct evidence for FA; associated with reduced food cravings and binge eating; potential benefit for FA	Yes	(Chao et al., 2019; EMA, 2018)
Semaglutide	No direct evidence for FA; reduced BED scores; potential benefit for FA	Yes	(EMA, 2021b; Richards, 2022)
Tirzepatide	No direct evidence for FA; robust evidence for weight loss & reduced compulsive eating; overlaps with FA	Yes	(EMA, 2022a; Wadden et al., 2023)
Lisdexamfetamine (LDX)	No direct evidence for FA; evidence for BED reduction; possible overlap	No; only ADHD	(EMA, 2012; Ratković et al., 2023)

Table 9: Pharmacological Treatment Options

6.1.2 Non-Invasive Methods

Non-invasive approaches primarily involve LM: a medical specialty that uses evidence-based lifestyle interventions to prevent, treat, and even reverse chronic diseases. LM emphasises healthy eating, regular physical activity, stress management, restorative sleep, positive social connections, and avoidance of risky substances. Comprehensive programs are tailored to individual needs and often involve multidisciplinary support to help patients set and achieve sustainable health goals. Lifestyle interventions are a first-line treatment, using programmes that typically include nutritional counselling, exercise regimens, behavioural therapy, and ongoing support to address barriers and promote adherence.

Lifestyle Medicine

Cena et al. (2022) looked at the benefits of exercise in multidisciplinary treatment for BED in adolescents with obesity. Due to the many similarities FA and BED share it is likely to be applicable to FA. They share key characteristics, such as loss of control over eating, compulsive consumption of highly palatable foods, and psychological distress related to eating behaviours. Both often occur with obesity and benefit from interventions that address eating patterns, emotional regulation, and physical health.

In BED, **exercise** as part of a multidisciplinary treatment approach (including psychological therapy and nutritional counselling) has been shown to reduce binge episodes, improve psychological well-being, and support weight management (Cena et al., 2022). These benefits are relevant to FA, where compulsive eating and emotional triggers play a role. Exercise can improve mood, reduce anxiety and depression, and enhance self-regulation-factors implicated in both BED and FA (Cena et al., 2022). It also contributes to improved physical health, which is important in populations with obesity and disordered eating. Exercise and physical activity were always recommended to participants within their treatment in the obesity clinic, although adherence rates could not be monitored.

The most effective interventions for BED combine exercise with psychological and nutritional components. This integrated model is called Lifestyle Medicine, addressing one health problem with a multidisciplinary treatment approach. As it addresses both behavioural and emotional aspects of compulsive eating as well as the physical and nutritional side of FA, it is likely to be the most effective. Findings by Zielińska et al. (2024) support this as a sedentary lifestyle is more common among individuals with FA. Those who are sedentary for longer periods of time each day are more likely to experience FA and depressive

symptoms (which are a risk factor for FA and disordered eating). Once participants had achieved a considerable amount of weight loss and felt comfortable doing physical activity again, they claimed that their overall well-being benefited from this.

Exercise programs should be closely monitored and tailored to individual needs, especially considering the risk of unhealthy or compulsive exercise behaviours in some individuals with disordered eating patterns. Professional support is important to ensure exercise is used therapeutically and not as a compensatory or harmful behaviour (Cena et al., 2022).

Diets were often used by participants in response to weight gain (and indirectly to FA). It seemed to be the first attempt to aid FA, although it is questionable if the faulty beliefs about body, food, and eating, that some participants displayed, did perhaps only arise through dieting. As a result, those attempts were mostly unsuccessful.

Factors that play a big role in the success of a diet are food environment, accountability, replacement foods, and stress management (Schiestl et al., 2024b). As dieting and nutrition is a very individual process, the diets that were named in the interviews differed vastly. This needs to be taken into account when prescribing diets to treat the co-occurring obesity with FA: individuals respond differently to the same diet, which may be due to personal preferences, genetics, environment, financial status, or beliefs. The difficulty here is that this approach requires a very unique treatment method for each patient, which might be harder to implement than a universal scheme.

When dietary interventions are clinically supervised and paired with behavioural therapies, they do not seem to trigger overeating, and may even reduce its occurrence (Da Luz et al., 2018). Many individuals doubt the effectiveness of standard dieting and emphasised the importance of personalised support and interventions tailored to their specific needs. Cognitive-behavioural therapy (CBT) and abstinence-based approaches seem to be preferred over traditional diets (Schiestl et al., 2024b). It seems that diets have a place in FA treatment but should not be the only dominant addressed and handled more as a part of an intervention.

Reductions in tobacco use in the US have been achieved through environmental changes such as higher taxes, limiting access to cigarette vending machines, and restricting advertising (Gearhardt, White, et al., 2011). Similar **public health** strategies could be applied to FA. Modifying the environment to make these foods less accessible and less heavily marketed could help limit compulsive overeating and its associated health costs. Much like tobacco, the widespread availability and marketing of hyperpalatable foods

contribute significantly to public health challenges (Gearhardt, Grilo, et al., 2011). Marketing and availability should be especially regulated to vulnerable groups like children and adolescents. That includes restrictions on product placements and online advertising. But as food is essential for survival, abstinence-based interventions are impossible, and the addictive components in foods are often difficult to isolate and regulate. These complexities potentially warrant international cooperation to address the unique challenges of FA (Gearhardt, Grilo, et al., 2011).

Lifestyle interventions such as diet, physical activity, and behavioral changes are foundational for weight loss. But many individuals find it difficult to maintain weight loss through these methods alone. Pharmacotherapy could be an adjunct for those with a BMI of 30 or higher, or 27 or higher with weight-related comorbidities, when lifestyle changes do not produce sufficient results (Yarnell et al., 2013).

Psychological Support

Acknowledging that FA is a real phenomenon – be it addiction or not – already helps people who suffer with it to seek out help. It justifies and encourages getting better and healing a mental illness (Cullen et al., 2017).

FA has some distinct diagnostic criteria that differ from other EDs and mental illnesses. But it aligns with each to varying degrees. Adapting empirically validated SUD treatment approaches for use in BED may improve treatment outcomes of FA. To help with the dietary and body-image related mental preoccupations in BED, it was found that CBT was an effective strategy (Gearhardt, White, et al., 2011; Ratković et al., 2023). Participants stated that psychological support was a useful tool in their recovery. Whether they had bariatric surgery or not did not influence their request for therapeutic help.

Unlike SUD treatment, where abstinence from the substance is often a goal, complete abstinence from food is neither possible nor recommended, as labelling foods as “forbidden” can increase the risk of developing an ED. Instead, CBT can be prescribed. It may help individuals identify and limit access to specific trigger foods, rather than enforcing strict prohibition of entire food groups, to support healthier eating patterns and long-term recovery (Gearhardt, White, et al., 2011). In FA – unlike in EDs – the addictive substances may need to be eliminated from the diet (Ratković et al., 2023). Yet, this is sometimes hard to put into practice, when the exact substance has not been identified yet.

Although FA is not officially recognised in the DSM-5, it overlaps significantly with BED and BN. Because of this overlap, treatment approaches used for EDs may also be suitable for FA as treating these issues separately may not be effective for individuals who experience both conditions at the same time.

The enhanced version of CBT, CBT-E, is considered the leading treatment for EDs, and can be combined with weight management strategies to achieve better outcomes. Integrated programs, such as those that blend behavioural weight loss therapy with CBT-E, have shown promising results for individuals with both weight and eating concerns. In some cases, pharmacological treatments may be added to CBT and dietary interventions (Da Luz et al., 2018).

The severity of FA symptoms is correlated with higher BMI and greater psychological distress (Zielińska et al., 2024). This suggests that if FA becomes more severe, both physical and mental health outcomes tend to worsen.

Adams et al. (2019) describe treatment approaches for FA that draw from both ED and SUD research. Firstly, Cognitive training tasks, designed to reduce impulsive reactions to food cues and strengthen self-control, help individuals retrain automatic eating behaviours. Neuromodulation techniques like transcranial direct current stimulation (tDCS) and repetitive transcranial magnetic stimulation (rTMS) target brain regions involved in craving and self-regulation, with early studies suggesting they may help reduce food cravings.

Adapting psychological interventions from SUD treatments (e.g. cue exposure therapy and self-regulation strategies) may help individuals manage cravings and build healthier coping skills (Adams et al., 2019). Integrating motivational interviewing, CBT, and neurocognitive interventions to address FA's emotional, cognitive, and environmental drivers shall also prove to be useful (Constant et al., 2020).

6.2 Redefining Food Addiction

Coming back to the aforementioned three proposed definitions to FA by Paterson et al. (2019), it shall be discussed, whether FA is a behavioral addiction, a substance addiction or no addiction at all.

Firstly, framing overeating as an addiction could reduce personal blame and societal stigma, shifting the responsibility from individual willpower to broader factors (Cullen et al., 2017). When participants were asked if they saw themselves as addicted to food, those who were

willing to answer identified with the term without it even being officially recognised or validated. It is evident that some participants experienced a severe level of suffering from their eating habits. There were differences as to what the distress was caused by, e.g., body image, social desirability, overeating, obesity, but they were suffering, nonetheless. As an official acknowledgement of a condition validates seeking out help and puts it into focus for research it is a step in the right direction to clearly define FA, distinguish it from other conditions connected to food and eating, and find appropriate research interventions.

While BED shares some similarities with addiction-like eating, there are minor differences in what people's experiences with problematic eating envelopes. It may be useful to consider the concept of FA as a different entity (Cassin & von Ranson, 2007).

FA might be considered an SUD because it shares key neurobiological features with recognised SUDs. Highly palatable foods, especially those rich in sugar and fat activate the brain's reward system in much the same way as addictive substances. They stimulate regions such as the striatum and orbitofrontal cortex that are central to motivation and pleasure (Adams et al., 2019). As participants named very specific foods that each of them craved, mostly UPFs, and some level of withdrawal, the neurological processes might mirror that of an SUD.

Other studies described FA as an addiction where participants experienced intense cravings, loss of control around certain foods, and compulsive overeating. They compared their relationship to food to that of a substance addiction (Cullen et al., 2017). The same was found during the interviews: participants often confirmed those criteria in combination with one another.

The dopamine activation of food consumption and drug misuse are seen to be similar (Gearhardt, White, et al., 2011), which suggests that food has addictive characteristics. Also neuroimaging reveals FA-associated anomalies in the brain's reward circuits and inhibitory control, resembling SUDs (Constant et al., 2020).

Multiple studies confirm this idea of classifying FA as an SUD because there are genetic similarities between FA and SUDs. They share variants in genes related to dopamine receptors (DRD2/ANKK1 gene), dopamine transporters (SLC6A3/DAT1), and opioid receptors (OPRM1) (di Giacomo et al., 2022). These genetic overlaps may suggest that both conditions involve similar disruptions in the brain's reward pathways.

Individuals meeting FA criteria demonstrate heightened activation in the amygdala, anterior cingulate cortex, caudate, dorsolateral prefrontal cortex, and medial orbitofrontal cortex when exposed to palatable food cues (e.g., milkshake images) compared to neutral cues (e.g., water) (Gearhardt, White, et al., 2011). This activation pattern mirrors neural responses observed in SUDs, particularly linked to cue-induced cravings and incentive salience, which are processes that drive compulsive drug-seeking.

Behavioural markers of FA (in the absence of BED) align with addiction-like behaviour. The interplay between FA and co-occurring BED remains unclear, suggesting distinct or overlapping mechanisms, which requires further investigation (Gearhardt, White, et al., 2011).

There is growing support for viewing FA as a behavioural addiction rather than a substance-based addiction. The key argument is that the addictive behaviour is not caused by specific foods or nutrients, but by the act of eating itself – similar to how gambling or gaming addictions are rooted in behaviours, not substances.

The transition from ventral to dorsal striatal control plays a central role in habit formation related to substance-seeking behaviours, including FA. This process involves neuroadaptations in the reward circuitry and stress systems. Those collectively drive compulsive consumption patterns. This transition is reinforced by a dopamine release in anticipation of rewards. As a result, environmental triggers increasingly automate substance-seeking actions. Habitual behaviours solidify when repeated pairings of expected rewards (with associated dopamine surges) align with actual rewards, strengthening synaptic connections (Ratković et al., 2023).

These neural changes interact with chronic stress, which disrupts the hypothalamic-pituitary-adrenal (HPA) axis. Elevated cortisol levels amplify cravings for hyperpalatable foods while impairing prefrontal regulation of impulsive behaviours. The interplay between a heightened reward sensitivity and diminished control creates a neurobiological framework that sustains compulsive eating patterns characteristic of FA (Ratković et al., 2023). Participants also named stress, e.g., work-related, a fight with a family member, or current political situations, as a trigger for overeating behaviour. They turned to their individual comfort foods to relieve emotional distress.

Hebebrand et al. (2014) argue that the behavioural mechanisms (heightened reward sensitivity, impulsivity, and difficulties with emotional regulation) are more important when

classifying FA. Using the term “food addiction” can be misleading, as it suggests a need to eliminate certain foods. This could encourage restrictive and stigmatising attitudes, negative stereotypes, or even be seen as an excuse for lack of self-control (Cullen et al., 2017). Instead, “eating addiction” may be more accurate. It reflects the clinical reality and supports interventions focused on behavioural modification such as CBT, mindfulness, and impulse control rather than on banning specific foods. This approach is likely to be more effective and less harmful for individuals struggling with compulsive eating behaviours (Hebebrand et al., 2014).

FA may display features of both substance use and behavioural addiction criteria. Participants often reported feelings of addiction toward specific energy-dense foods like cheese, baked goods, sweets, and crisps, which are high in fats and carbohydrates. In contrast, they rarely felt addicted to unprocessed foods or those low in carbohydrates and fats.

Addictive-like eating behaviours also tend to arise more frequently in particular situations or contexts that serve as triggers for compulsive consumption, which suggests a behavioural addiction. Individuals are often distressed by the consequences (such as weight gain) rather than the behaviour itself similar to patterns seen in smoking or gambling (Paterson et al., 2019). Key external factors influencing these behaviours are emotional responses associated with food consumption such as past and present social environments, situational cues, persistent urges to overeat, and personal perceptions of weight and health (Paterson et al., 2019). This may indicate that FA meets criteria for both SUDs and behavioural addictions, yet it also differs from BED, suggesting it may represent a unique clinical entity.

7. Conclusion

This research set out to give voice to individuals living with food addiction, aiming to deepen understanding of their lived experiences and the ways in which food addiction shapes their daily lives and relationship with food. By exploring whether food addiction is best conceptualised as a behavioural addiction, a substance addiction, or as part of the spectrum of eating disorders, this research sought to contribute to the ongoing debate within the field.

Furthermore, the thesis aimed to identify treatment approaches that participants found most useful, placing particular value on interventions that improved their well-being and changed their relationship with food. Through this phenomenological lens, the research has provided nuanced insights into the realities faced by those with food addiction and highlighted the importance of centring their perspectives in both clinical practice and future research.

Food addiction caused a large amount of emotional distress for those classified with it, but the nature of this stress was always different: e.g., failing to take part in family life, eating until the stomach is hurting, or health consequences such as obesity.

A personalised, tailored treatment with a multi-disciplinary, holistic approach, not unlike lifestyle medicine is the current best practice. Patient statements reflect this as they said nutritional counselling helped them in terms of education, bariatric surgery or pharmacological treatment aided the co-occurring obesity, and psychological support gave them an outlet for the emotional aspect of their eating behaviour.

To answer the question of classification of food addiction, it can be said that it shares patterns with addictions, which strongly suggests that it should be classified as such. After interviewing participants who struggled with what can be diagnosed as food addiction according to the Yale Food Addiction Scale 2.0, it became evident that the idea of food addiction being both substance and behaviour driven is most plausible.

Most participants who could be diagnosed with food addiction also showed patterns of emotional eating which is an indicator of an eating disorder. Some of the diagnostic criteria overlap with those of eating disorders. Clearly distinguishing between the two is crucial to finding the right treatment approaches.

In summary, there are two main findings of this thesis. Firstly, food addiction needs to be classified correctly and accurately. The diagnostic criteria need to be honed. Even though the Yale Food Addiction Scale 2.0 is the best validated tool as of 2025, a more accurate

diagnostic tool could help raise awareness about the phenomenon as a whole as well as facilitate early detection to treat it as soon as possible.

Secondly, sensible, effective treatment methods need to be found. While scholars and experts will be working on the classification, people are still suffering because of their eating habits, be it food addiction, eating disorders or something completely novel. As there is no one-fits-all approach to food addiction (or anything for that matter), all treatment methods need to be tried out on patients with food addiction. A two-expert-approach can be applied to let patients decide what they want to try. They know themselves and their life circumstances best. Results need to be documented in longitudinal studies to determine their effectiveness. Sub-populations that are especially affected need special attention, e.g., patients with obesity, depression, Attention Deficit Hyperactivity Disorder, or eating disorders. This may be the most structured way to find a treatment that works for such an interdisciplinary phenomenon. As food addiction is a rather new topic, trial and error is the only way – as of now – to combat it.

As our understanding of food addiction deepens, it is important that research, clinical practice, and public health policies evolve to meet the real needs of those affected. Despite the unclear diagnostic process, it is more than clear that the amount of research done in this field does not reflect the demand for treatment.

8. Strengths and Weaknesses of this Work

Strengths

The literature highlights that FA is a new area of research, with ongoing debates about diagnostic criteria, measurement, and clinical relevance. By investigating FA in the context of bariatric surgery patients, this thesis addresses a clear gap in the literature and contributes valuable new insights.

The YFAS was used as a measurement tool. It displays measurement reliability and validity, internal consistency, and construct validity across diverse populations and languages (Jahrami et al., 2025). The ongoing debate about FA as a construct may pose some interpretive challenges of the self-reported data, yet the YFAS is widely used and recognised, making it a standard tool for assessing FA symptoms.

The sample size of 16 in-depth interviews conducted is within the recommended range for phenomenological research. A robust sample size allowed for a thorough exploration of participants' lived experiences (Sarfo et al., 2021). No new themes or significant insights emerged at later stages of the analysis, which suggested that data saturation was achieved. The sample, while robust for qualitative research, may not capture the full diversity, particularly with respect to demographic or cultural variation, as interviews were only done in German and conducted in Berlin. According to ethical guidelines, all participants provided informed consent. Confidentiality was maintained throughout the research process.

An external expert of phenomenology was involved in the validation of the findings and methodology of this thesis. He guided the methodological approach, data analysis, and interpretation of findings. His input helped maintain methodological rigor.

Triangulation is another strength of this thesis. Semi-structured interviews with open-ended questions were complemented and validated by quantitative data from the YFAS. By integrating qualitative and quantitative approaches, findings were cross-checked through different methods. This reduced the risk of bias.

Reflexivity was actively practiced during the research, with the researcher maintaining awareness of their own potential biases and influences on data interpretation.

Weaknesses

Because only one researcher coded and analysed the data (with external review), there is a higher chance of individual bias influencing the findings. Reflexivity was actively practiced

during the research, with the researcher maintaining awareness of their own potential biases and influences on data interpretation. The missing interrater reliability may affect the consistency and dependability of the results. Although reflexivity helps, some unconscious biases may still influence data interpretation.

Due to the time constraint, no member checking was implemented in the data synthesis process. Without participant validation, there is a risk that the interpretations may not fully or accurately reflect the participants' intended meanings or lived experiences. This may reduce the credibility and authenticity of the findings, as it could not be confirmed that participants agree with the analysis.

Bariatric surgery patients were purposely selected for interviewing because emerging research suggests that rates of FA are higher in this group (Ivezaj et al., 2017). This approach enabled an exploration of FA in a population where it is especially relevant. However, this sampling strategy may limit the generalisability of the results to the broader population. As the sampling process was also convenience-based, findings may only represent those who were accessible and agreed to participate or were willing to talk.

The social desirability bias potentially influenced the results. Participants may have underreported their experiences with FA due to the sensitive nature of the topic. Additionally, the cross-sectional design of the study does not yield any conclusions about causality or changes in FA symptoms over time.

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10. Appendices

Appendix 1: Bioethics Approval



Trikala: 18/03/2025

Protocol Number.: 28/03/2025-06

Application for approval of research entitled: The Experience of Food Addiction and Eating Behaviours in Bariatric Surgery Patients: A Phenomenological Study

Scientist responsible – supervisor: Giorgos K. Sakkas

Institution: University of Thessaly

Department: M.Sc. in Lifestyle Medicine

Main researcher – student: Emeli Noack

The proposed research relates to a(n):

- | | |
|---|---|
| ☐ Research grant | ☒ Postgraduate thesis |
| ☐ Undergraduate thesis | ☐ Independent research |

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The Internal Ethics Committee (IEC) of the Intradepartmental Master of Science in Lifestyle Medicine, University of Thessaly, examined the proposal in its 28/03/2025 meeting and approves the implementation of the proposed research.

The Chair of the IEC – M.Sc. in Lifestyle Medicine

Prof. Giorgos K. Sakkas



Appendix 2: Consent Form

University of Thessaly

Intradepartmental Master of Science in Lifestyle Medicine

Internal Ethics Committee

Informed consent form for participation in a research study

1. Title of the study

The Experience of Food Addiction and Eating Behaviours in Bariatric Surgery Patients: A Phenomenological Study

2. Aim of the Study

This study seeks to explore and understand pre- and post-bariatric surgery patients' lived experiences of your relationship with food and in particular food addiction. This research focuses on how you perceive, interpret, and make meaning of your experiences. It provides deeper insights into the psychological, emotional, and behavioural changes that occur.

3. Description of research activities

Once you consented to participate, you will be given a German validated translation of the Yale Food Addiction Scale to confirm that you are suffering from a Food Addiction and to determine the severity. Next, you will be guided through a semi-structured interview with open questions to help you open up about your experience with food and Food Addiction. The interview is being recorded for later transcription. None of the audio files will be published.

4. Risks/ discomfort involved

No physical pain or discomfort will be involved. Emotionally, you need to be ready to talk about potentially difficult topics. This is disclosed to you hereby, ahead of initiating the interview.

5. Expected impact

This study will be useful to patients and healthcare providers alike to attain a deeper understanding of the mechanisms of Food Addiction and its impact to sufferers. Based on

the results, it may be feasible to develop effective interventions for people suffering from Food Addiction, especially with the background of a bariatric surgery.

6. Dissemination of results

In this study, no participants names, confidential data or identifying information will be published or shared. Data will be anonymised to protect individual identities, in compliance with ethical and legal standards. Any dissemination will focus on general findings (e.g. statements, recurring themes, translated quotes) and statistical outcomes rather than specific patient details.

7. Further Information

Do not hesitate to ask questions regarding the aim of this study or the implementation of study design. If you have any doubts or questions, do ask us for clarifications.

8. Freedom of consent

You are a voluntary participant. You are free to withdraw your consent now or later.

Participant's declaration

I read this form and I understand the procedures involved. I agree to participate in this study.

Date: __/__/__

[Name and signature of participant]

[Name and signature of researcher]

[Name and signature of witness]

Appendix 3: German Validated Yale Food Addiction Scale 2.0

Source: Meule, A. & Kübler, A. (2017). German version of the Yale Food Addiction Scale 2.0. *Appetite*, 115, 54–61.

No.	Item (Deutsch) [English]	Scoring (0)	Scoring (1)	Criterion
1	Wenn ich anfang bestimmte Nahrungsmittel zu essen, aß ich viel mehr als geplant. [When I started to eat certain foods, I ate much more than planned.]	0–5	6–7	amount
2	Ich aß bestimmte Nahrungsmittel weiter, obwohl ich nicht mehr hungrig war. [I continued to eat certain foods even though I was no longer hungry.]	0–5	6–7	amount
3	Ich aß bis zu einem Punkt, an dem ich mich körperlich schlecht fühlte. [I ate to the point where I felt physically ill.]	0–3	4–7	amount
4	Ich machte mir viele Gedanken darüber, den Konsum bestimmter Nahrungsmittel einzuschränken, aber ich aß sie trotzdem. [I worried a lot about cutting down on certain types of food, but I ate them anyways.]	0–5	6–7	attempts
5	Ich verbrachte viel Zeit, in der ich mich träge oder müde fühlte, weil ich mich überessen hatte. [I spent a lot of time feeling sluggish or tired from overeating.]	0–4	5–7	time
6	Ich verbrachte viel Zeit, in der ich bestimmte Nahrungsmittel über den ganzen Tag hinweg aß. [I spent a lot of time eating certain foods throughout the day.]	0–5	6–7	time
7	Wenn bestimmte Nahrungsmittel nicht vorhanden waren, scheute ich keine Mühen diese zu bekommen. Zum Beispiel ging ich in den Supermarkt um bestimmte Nahrungsmittel zu kaufen, obwohl ich andere Lebensmittel zuhause hatte. [When certain foods were not available, I went out of my way to get them. For example, I went to the store to get certain foods even though I had other things to eat at home.]	0–5	6–7	time
8	Ich aß bestimmte Nahrungsmittel so häufig oder in solch großen Mengen, dass ich aufhörte andere wichtige Dinge zu tun. Diese Dinge konnten beispielsweise sein zu arbeiten oder Zeit mit Familie oder Freunden zu verbringen. [I ate certain foods so often or in such large amounts that I stopped doing other important things. These things may have been working or spending time with family or friends.]	0–2	3–7	activities
9	Ich hatte Probleme mit meiner Familie oder Freunden aufgrund der Häufigkeit meines Überessens. [I had problems with my family or friends because of how much I overate.]	0–1	2–7	problems
10	Ich mied die Arbeit, Schule oder soziale Aktivitäten, weil ich befürchtete mich dort zu überessen. [I avoided work, school or social activities because I was afraid I would overeat there.]	0–1	2–7	activities

11	Wenn ich den Konsum bestimmter Nahrungsmittel einschränkte oder ganz aufhörte sie zu essen, fühlte ich mich gereizt, nervös oder traurig. [When I cut down on or stopped eating certain foods, I felt irritable, nervous or sad.]	0–3	4–7	withdrawal
12	Wenn ich körperliche Symptome spürte, weil ich bestimmte Nahrungsmittel nicht gegessen hatte, aß ich diese Nahrungsmittel um mich besser zu fühlen. [If I had physical symptoms because I hadn't eaten certain foods, I would eat those foods to feel better.]	0–4	5–7	withdrawal
13	Wenn ich emotionale Probleme hatte, weil ich bestimmte Nahrungsmittel nicht gegessen hatte, aß ich diese Nahrungsmittel um mich besser zu fühlen. [If I had emotional problems because I hadn't eaten certain foods, I would eat those foods to feel better.]	0–3	4–7	withdrawal
14	Wenn ich den Konsum bestimmter Nahrungsmittel einschränkte oder ganz aufhörte sie zu essen, verspürte ich körperliche Symptome. Zum Beispiel hatte ich Kopfschmerzen oder fühlte mich müde oder schlapp. [When I cut down on or stopped eating certain foods, I had physical symptoms. For example, I had headaches or fatigue.]	0–3	4–7	withdrawal
15	Wenn ich den Konsum bestimmter Nahrungsmittel einschränkte oder ganz aufhörte sie zu essen, verspürte ich ein starkes Verlangen nach ihnen. [When I cut down or stopped eating certain foods, I had strong cravings for them.]	0–5	6–7	withdrawal
16	Mein Essverhalten verursachte mir sehr viel Leid. [My eating behavior caused me a lot of distress.]	0–4	5–7	impairment/distress
17	Ich hatte erhebliche Probleme in meinem Leben aufgrund von Nahrung und Essen. Diese Probleme betrafen beispielsweise meinen Alltag, die Arbeit, die Schule, Freunde, Familie oder meine Gesundheit. [I had significant problems in my life because of food and eating. These may have been problems with my daily routine, work, school, friends, family, or health.]	0–4	5–7	impairment/distress
18	Ich hatte ein so schlechtes Gewissen aufgrund des Überessens, dass ich andere wichtige Dinge nicht tat. Diese Dinge konnten beispielsweise sein zu arbeiten oder Zeit mit Familie oder Freunden zu verbringen. [I felt so bad about overeating that I didn't do other important things. These things may have been working or spending time with family or friends.]	0–2	3–7	activities
19	Mein Überessen stand mir dabei im Weg mich um meine Familie zu kümmern oder meine häuslichen Pflichten zu erledigen. [My overeating got in the way of me taking care of my family or doing household chores.]	0–1	2–7	obligations
20	Ich mied die Arbeit, Schule oder soziale Aktivitäten, weil ich bestimmte Nahrungsmittel dort nicht essen konnte. [I avoided work, school or social functions because I could not eat certain foods there.]	0–2	3–7	activities
21	Ich mied soziale Situationen, weil Menschen es nicht akzeptiert hätten wie viel ich gegessen hätte. [I avoided social situations because people wouldn't approve of how much I ate.]	0–2	3–7	problems

22	Ich aß in derselben Art und Weise weiter, obwohl mein Essverhalten emotionale Probleme verursachte. [I kept eating in the same way even though my eating caused emotional problems.]	0–3	4–7	consequences
23	Ich aß in derselben Art und Weise weiter, obwohl mein Essverhalten körperliche Probleme verursachte. [I kept eating the same way even though my eating caused physical problems.]	0–4	5–7	consequences
24	Die gleiche Nahrungsmenge zu essen brachte mir nicht den gleichen Genuss wie früher. [Eating the same amount of food did not give me as much enjoyment as it used to.]	0–4	5–7	tolerance
25	Ich wollte unbedingt den Konsum bestimmter Nahrungsmittel einschränken oder ganz auf sie verzichten, aber ich konnte es einfach nicht. [I really wanted to cut down on or stop eating certain kinds of foods, but I just couldn't.]	0–5	6–7	attempts
26	Ich musste immer mehr essen um die Gefühle zu bekommen, die ich durch essen erreichen wollte. Diese umfassten eine Verminderung negativer Emotionen wie Traurigkeit oder eine Erhöhung des Wohlbefindens. [I needed to eat more and more to get the feelings I wanted from eating. This included reducing negative emotions like sadness or increasing pleasure.]	0–4	5–7	tolerance
27	Ich erbrachte keine gute Leistung auf der Arbeit oder in der Schule, weil ich zu viel aß. [I didn't do well at work or school because I was eating too much.]	0–1	2–7	obligations
28	Ich aß bestimmte Nahrungsmittel weiterhin, obwohl ich wusste, dass es körperlich gefährlich war. Zum Beispiel aß ich weiterhin Süßigkeiten, obwohl ich Diabetes hatte oder ich aß weiterhin fettreiche Nahrungsmittel, obwohl ich eine Herzerkrankung hatte. [I kept eating certain foods even though I knew it was physically dangerous. For example, I kept eating sweets even though I had diabetes. Or I kept eating fatty foods despite having heart disease.]	0–3	4–7	situations
29	Ich hatte einen solch starken Drang bestimmte Nahrungsmittel zu essen, dass ich an nichts anderes mehr denken konnte. [I had such strong urges to eat certain foods that I couldn't think of anything else.]	0–3	4–7	craving
30	Ich hatte ein solch starkes Verlangen nach bestimmten Nahrungsmitteln, dass ich mich fühlte als müsste ich sie sofort essen. [I had such intense cravings for certain foods that I felt like I had to eat them right away.]	0–4	5–7	craving
31	Ich versuchte den Konsum bestimmter Nahrungsmittel einzuschränken oder ganz aufzuhören sie zu essen, aber ich war erfolglos. [I tried to cut down on or not eat certain kinds of food, but I wasn't successful.]	0–4	5–7	attempts
32	Ich versuchte und versagte dabei den Konsum bestimmter Nahrungsmittel einzuschränken oder ganz auf sie zu verzichten. [I tried and failed to cut down on or stop eating certain foods.]	0–4	5–7	attempts

33	Ich war durch essen so abgelenkt, dass ich mich hätte verletzen können (z.B. während des Autofahrens, beim Überqueren der Straße oder beim Bedienen von Maschinen). [I was so distracted by eating that I could have been hurt (e.g., when driving a car, crossing the street, operating machinery).]	0–1	2–7	situations
34	Ich war durch Gedanken an Essen so abgelenkt, dass ich mich hätte verletzen können (z.B. während des Autofahrens, beim Überqueren der Straße oder beim Bedienen von Maschinen). [I was so distracted by thinking about food that I could have been hurt (e.g., when driving a car, crossing the street, operating machinery).]	0–2	3–7	situations
35	Meine Freunde oder Familie machten sich Sorgen darüber, wie häufig ich mich überaß. [My friends or family were worried about how much I overate.]	0–1	2–7	problems

Answer Categories:

0 = nie [never]

1 = seltener als 1 × pro Monat [less than monthly]

2 = 1 × pro Monat [once a month]

3 = 2–3 × pro Monat [2–3 times a month]

4 = 1 × pro Woche [once a week]

5 = 2–3 × pro Woche [2–3 times a week]

6 = 4–6 × pro Woche [4–6 times a week]

7 = jeden Tag [every day]

Scoring:

- Responses are recoded to a dichotomous format (see columns Scoring (0) and Scoring (1)).
- If at least one question of each criterion is scored as one, then this criterion is met.
- Symptom count: Add up criteria met (except impairment/distress), range 0–11.
- Diagnosis:
 - o Mild: ≥ 2 symptoms + impairment/distress
 - o Moderate: ≥ 4 symptoms + impairment/distress
 - o Severe: ≥ 6 symptoms + impairment/distress

Appendix 4: List of Questions

1. Pre-operation

- How would you describe your relationship with food before your bariatric surgery?
- Do you remember moments when you experienced a loss of control over your eating habits? Can you share an example?
- Which emotions and/or situations have triggered a craving for food?
- How do thoughts about food and your weight influence your daily life?
- How do you navigate social situations, that include food, e.g. going for dinner with friends?

2. Post-operation

- How has your perception of food addiction changed after surgery?
- Did you notice differences in your cravings for food/emotional eating after surgery? Are there specific foods that you gravitated towards more often?
- Which strategies do you use to cope with your eating habits/emotional eating?
- Do you feel that the bariatric operation was sufficient to better your problems with food/eating/weight? Why/why not?
- If you had to give a new bariatric surgery candidate some advice about the whole process, what would it be?

3. General Questions

- How do you define “Food Addiction” in your own words”?
- Do you identify with the term “Food Addiction”?
- In your own experience, how common is it to be “addicted” to food?

Appendix 5: List of Quotes

Topics	Subtopics	Quotes
Reasons for overeating	Relieve physical symptoms	“I always had the feeling that it had an influence on my concentration.” “When I don’t have sugar three days in a row, I [...] get a headache.”
	Relieve Emotional Discomfort	“To suffocate. I can just say to suffocate. I didn’t feel happy. I suffocated, suppressed, killed what I was disgusted by.” “I had to eat it so that I felt good.” “[Food] wasn’t something that I needed to survive but something to regulate my emotions.” “In my youth I did a lot of sports but was still overweight. So it [eating] was all emotional.” “When I had to do my homework and got frustrated with it, I couldn’t keep going [...], I had to eat something sugary to calm myself down. [...] And then I couldn’t finish my homework.” “I used to eat because I was frustrated... or when I was like ‘oh, this is so yummy, I have to eat it, I have to finish it.” “Even though I knew it was what was making me sick, what made me an outsider, it was what comforted me.” “[...] in moments when I was sad. It could be anything like a fight with my family...or even now with my husband I think ‘oh, I need this now. [...] and it goes that far that if I don’t have the food at home, either I order something or I go out and buy only that one item and go home.” “It was something that calmed me, and it triggered, like, a warm feeling.” “Especially sadness, anger, frustration...yeah and then you’re trying to make the situation better through food.” “After my last relationship ended, I lost myself a little bit in eating. I gained 12kg which I didn’t even realise. I grabbed everything that I fancied when grocery shopping, mostly unhealthy stuff. [...] I thought I needed that.” “I definitely remember that I especially ate when I was sad. When I didn’t get the food, I got irritated. From one to the other.” “When I feel lonely or down...a pudding or something helps me instantly.” “It was when my son was born with a disability that I started to eat everything. [...] I am also an alcoholic, and I suppose it’s a shift of the addiction. I am ten years sober, but I still grab sweets and stuff myself.”
	“Reizsuche”	“A piece of butter, mayonnaise, an egg, a piece of chocolate, ketchup. Something that relieves the sensation, which I didn’t find. [...] Then I didn’t only have one spoon but a second and third. [...] I felt myself via this sensation-search [...] I only felt my body then.”
	Food Environment	“[They are] cheap [...] and you can get them everywhere.” “I wonder if it is ‘good’ to eat this now, if it is the right food.” “I know there are good and not so good foods. [...] but you still have that craving, and can’t stop, even though you know it’s bad for you or unhealthy.” “Crisps, fatty foods, and jellies, those are my guilty pleasures which I crave often.”
	Familial History	“My dad weighed [...] at his heaviest. He suffered a lot because of that. [...] Maybe I considered [...] [obesity] to be something normal.” “I always was predestined to be addicted, be it food, cigarettes, like I was addicted to nasal spray for ten years. [...] my parents were also overweight.”
	Childhood	“I think there is a reason why [food] gives you so much. When I think about it now, I always went to [food] in emotional situations so I must have gotten something from it. In the past I was probably rewarded with it. [...] Something has probably triggered my fixation to it. I never had a problem with portion sizes. I always hear it from my husband: ‘You’re not eating that much.’” “As a child, I often felt overwhelmed. A little while ago I read my report cards where it said that I often asked in school if I am doing things right. I was a very insecure child and when I was left alone with tasks, I was probably overwhelmed. [...] My mother was at work so I couldn’t ask for help and my sister also wasn’t there often.” “When I was a child, I loved eating the end of the bread.”

		“When I was young, my parents told me you have to finish this, you’re not getting up from the table before you have finished your food. That way we never wasted food. [...] nobody ever said, ‘if you can’t finish that you don’t have to.’”
Consequences of overeating	Abdominal Distension	“I sometimes still [eat] until I have a belly ache.” “I would actually say, that feeling that I had when I ate too much, was what I needed even though it was hurting. You’re super-full, [...] overly full and that compensated for something else I would say.” “I was invited to a birthday party, there was a lot of tasty food, and I wanted to try everything. [...] I ate too much even though I knew that I was too much, even though my stomach signalled that it was too much, but I kept going.”
	Physical Symptoms	“I felt lethargic after [overeating] and very energy deprived.” “Yeah, [I] felt awful. [My] stomach was so full, I couldn’t move, I only wanted to rest.” “I never did anything else, I didn’t feel up for doing anything. I ate and was full, and then did I want to move? No, I never participated in anything. I got really lethargic.” “Well, food makes you happy, and when you’re eating you are happy. You stomach was full, and you felt good.”
	Implications in everyday life	“Yeah, well the result of it. You don’t fit into anything. On the plane you sit squashed together like sardines. You always have to ask for a seat belt extension. Everywhere I went, I wondered ‘Will I fit? Can I sit in this chair? Will it hold? What do people think? Did I dress correctly? Where do I get clothes?’” “My weight influences my everyday life [...] since I was 30. [...] Like an alarm clock in my head I, wake up in the middle of the night and go to the fridge to have something sweet.” “I am thinking of comments...and also realising that you can’t do certain activities because of being overweight; it’s less about the food but more about the [result] of being overweight and then I don’t know, maybe you can’t go hiking or something. From the beginning you know I can participate but I can’t keep up with the others. And then you start limiting yourself.” “I don’t like eating out, simply because of my overweight, that people realise it and they start looking. As a child I didn’t mind as much but now I do because the overweight is much higher than before. And I realise that there are looks.” “Afterwards [after overeating] the problems started, like when you wanted to go places...or go shopping. I realised [my friends] could buy nice clothes because they were thin or slim. I couldn’t.” “I hate clothes, getting dressed, going out, all that. Participating in activities. [...] You’re treated so differently.” “I always had to do more than others. I always had to prove myself. [...] You always have to do more and achieve more. Otherwise, you get the label ‘little, fat, stupid.’” “In hindsight I would’ve like to go to the playground with my daughter more often. And I didn’t because I was ashamed, and afraid people would look or talk about me. Most of the time I could still clean and all. But like going for a walk with her, going outside is something where I’m like ‘I’m so sorry, I just should’ve done it.’”
	Self-harm	“Definitely self-harm. My work habits, my exercise habits, my eating habits.” “If [I] didn’t eat, I would cut myself and drink.” “It wasn’t that I was [creating] harmful situations through eating. I [harmed] [...] myself as a punishment for eating too much.”
	Low Self-esteem	“You think ‘oh, you’re such a loser, you get everything done the way you want to, except eating.’” “I work in a youth asylum where I have to be a role model for the young ones, especially since there are overweight adolescents. [...] but as soon as I get home, I ate the first thing in sight.” “My mum always [accepted] me the way I was, in school too, the way I looked, supported me with everything. She thought I was pretty. I didn’t. The same problem I have with my wife now: she loves my body, I hate it.” “[When] I was looking at pictures [I] thought ‘oh god, look at that double chin.’ It was pretty prominent [...], even though I didn’t look bad.”
	Problems with Portion Size Regulation	“After hosting some friends at home, I was cleaning up and I thought ‘Oh, there is that tasty potato salad, I could finish that.’ And I did. Even though I was full, more than full, I continued eating.” “I just didn’t buy those things anymore. [...] But the problem was when somebody gave me something, like dark chocolate then [...] I had to finish it. [...] I couldn’t stop before it was all finished.”

		"I said to myself I wouldn't eat the entire bag but then I did." "It was simply to having emptied the plate. [...] often it is that I liked the taste of something and even though I was full continued eating to still be able to taste the food." "I haven't really learned to [...] [regulate] portion sizes." "What am I eating next, what do I get, what will I have for dinner, what will I make for breakfast, what do I need from the shop?" "Last week for example, I felt good. I went out with my friends and got dinner. Afterwards, I had six doughnuts. [...] At first, I only had one, then I got faster and faster and I had to finish them all." "I can finish a jar of Nutella, even though I already feel queasy. That doesn't bother me." "The bag had to be emptied even though I wasn't hungry, and it didn't taste good anymore. It was only okay when the bag was empty ... so stupid." "Then I [...] quickly had a bite from something in the fridge. I had such a craving for it. And then I stopped but after an hour started again."
Cravings	Craving Certain Foods	"When I wanted a chocolate bar, I said to myself, 'no, have an apple.' And then I had the apple but still wanted the chocolate bar. And I had it. [...] I couldn't not do it. I just had to. [...] This inner feeling of discomfort and annoyance, you get into a bad mood, get a headache. And your thoughts only circle around [food], like 'I need this now.'" "I never had a break where I didn't eat. As soon as I felt a craving, I prepared that food." "I thought my hunger controls me." "I don't know what I got from the chocolate but now that I am an adult, I realised that it always had something to do with chocolate."
	Acquiring the Craved Foods	"Well, that was a hurdle. [...] You had to go out and get it. No, I always ate what was home." "I don't know if it is just the lack of willpower for me or if I need some more help, like therapy." "I really got up at night and made my way to the petrol station and bought Cola light. It always had to be in reach."
	Trigger Foods	"For three weeks I was eating healthy and had the feeling that I was losing weight but then I ate something sweet...and then you start again you know? [...] that was the same as when I stopped smoking: after a few months I smoked one cigarette and then I started again." "There are certain foods or situations that trigger me. But now I can openly say so [...] and people understand – which I wouldn't have thought they would."
	Sugar & Chocolate	"It really is only sugar [that I am addicted to]. I definitely had some sort of sugar addiction and probably still do. [...] I think it is severely underestimated. Only now people started to think 'hey this could really be an addiction.'" "[I was only] overeating [...] chocolate, and with [other] foods I didn't overeat. All in all, I'd say that's not my problem but all the sugary stuff. Afterward I felt so down and tired and had thoughts like 'Now the day is messed up anyway.'" "I don't need [chocolate] every day but I definitely realise after three days that I have a headache. And why? – oh because I didn't have any chocolate."
Definitions for Food Addiction	Participants' Definitions of FA	"I would classify it as an addiction, because I realised throughout my life that I can't abstain from [chocolate]." "Some people have other addictions, I'd say, to calm themselves, and for me it was [eating]." "[...] they're trying to fill a void. [...] Something is missing and they're replacing it with food." "I can empathise with people [...] who are addicted to nicotine, [...] or alcohol, or gambling." "It is a compensation of different emotions that you haven't worked through. I think it is also a way of self-harm." "For me it didn't matter if it was sweets or fast food. The main thing was that it was something to eat." "That person is definitely overweight and is probably thinking about food 24/7. [...] It is an emotional dependence that gives you support." "I always think of an overweight person, who eats too much, but that's not true. There are many illnesses causing obesity. I wouldn't judge anyone."

		"In secret. [...] The person doesn't have to be overweight. [...] You can't think about anything else. You go out and buy things, no matter the time. [...] Often ashamed. [...] Since covid and working from home it probably became more and more." "For me it is similar to alcohol, it's like an addiction."
	Self-identifying with FA	"It was accurate [before BS], now not at all." "I can relate. It is like alcohol or drugs."
Treatment Approaches	Therapy/Psychological Support	"You have to take the time to be egoistic and say: 'I only think of myself.'" "It is a really, really hard path with a lot of self-reflection." "It's a lot of mental work." "I think up to a few years ago I didn't even realise that I did develop an addiction [...] that is obviously connected with a lot of shame. [...] I think it is important that this feeling of shame is addressed, that you start working on yourself and say, 'hey it takes time, it doesn't change immediately so don't stress about it, keep going and don't try to go for quick fixes.'" "It is so important to get rid of the shame."
	Bariatric Surgery	"I wouldn't say that I am healed in terms of my eating habits. [...] but at least it doesn't influence me 24/7." "What is happening to you? Why do you eat all of that? What does that do to you? Why can't you stop? Why is that so important? Bariatric surgery is only a tool but you have to do the work yourself." "Before [surgery] I didn't know much about the topic and just grabbed the first thing that was available. [...] Now I am more conscious of my choices." "The only thing I regret is not doing the surgery sooner." "I always say it is a crutch. I don't want to know what would've happened [without it]. I'd probably be in a wheelchair." "I don't have any intense cravings anymore. One day I had a craving for ice cream but that passed quickly. Before [the surgery] I probably would've gone to the shop." "[The surgery] was only a tool. [...] You have to work on the changes in your mind too. [...] For everyone the reason they are overweight is different, and they have to find their own way in treating it." "I don't think completely, I can't fully manage it [my eating habits]." "I just couldn't do it by myself."
	Lifestyle Medicine	"I think diets do work if you want to lose weight short-term for an event. But I think you need to be the right kind of person with a lot of discipline. From where I stand now, I think a long-term shift of the lifestyle is necessary, not a diet. [A lifestyle change] you can keep up for the rest of your life."
	Dieting	"Since I was seventeen, eighteen, I always tried different diets." "In the last 30, 40 years I lost around 20-30kg each time [I dieted] and within one year regained it all. It's like that since I was 17." "I tried a lot of diets, very radical ones like Atkins where you completely cut out carbohydrates and sugar and then you have those small results, but it wasn't something for me in the long run." "I tried dieting and to stop [overeating]. I often had relapses." "I [...] restricted myself, which I often couldn't do very long and got annoyed with myself and my behaviour. [...] I gave in at some point and ate something which made me feel satisfied at first but not really better because there still was this frustration about giving in." "We always tried not to eat late at night, like 5 p.m., didn't work...then I had an apple and got a craving for something else, had a banana, then I [still] had the craving, and thought 'oh, my god, that never stops'." "I always tried to stop but then started again and again. Also, those foods that, well, you ate even though you knew they were high in calories but you ate them anyway." "At the beginning of my Keto diet, [...] like the first four weeks were hell. It was really bad. I immediately cut out sugar, carbohydrates. I couldn't raise my arms, had headaches, I felt really bad. After four weeks it got better then." "You think you're a loser when you can't do it." "[There are] days where you tell yourself 'Today is the day that I start, now I am eating healthy' and then you realise it isn't working because, I don't know, it doesn't fit your

		everyday life, or you don't plan it well enough. And then you're disappointed. [...] I wonder, why I couldn't do it. It can't be that hard."
Societal Influences	Maintaining Social Priorities	"[The overeating] was still in a way so that I could live my normal life." "I always had a social life." "I would say they [friends] didn't even realise." "I couldn't do certain hobbies anymore, for example horseback riding because I was too heavy. That was quite frustrating but otherwise I continued participating. I didn't feel very comfortable, but I did because I didn't want to be an outsider."
	Seld-imbued Social Isolation	"Yeah, that was sometimes the case, I thought 'nah, I better not go there.' Or another time I cancelled plans with friends because I was so anxious. I always went to work. But when we were supposed to go out, I thought 'What do I wear? That's too tight.' Well, okay [you'll] say you're ill. [I] sent a message saying, 'I can't, I'm ill.' [...] Yeah, it's such a compulsion in this situation to cancel even though I didn't want to. But I often felt so uncomfortable in a situation that it was a relief not to go. [...] Another time there was a work Christmas party and I already thought 'oh, I don't want to go.' I got dressed and was thinking 'please let something happen so I don't have to go.' And then there was clear ice on the road, and I was so glad I could stay home."
	Problems with Friends	"Friends told me 'just stop it.' But in my family, it [overeating] was kind of encouraged. My mum cooked and it was part of the family life to sit together and eat. [...] and of course I would eat more in company." "When I am out with friends, they watch me. What I eat. I don't eat what I crave then. I worry what they think when I order. And I don't order what I would like. [...] one of my friends said, 'That was more than 200 g that you had.' And I'm like 'just let me eat.'"
	Problems with Family	"[My overeating] was a big topic of conflict between me and my parents." "I never was thin enough for my mother." "My brother [...] talked to my mother about me while I was sitting at the table, saying, 'well, she has to go to a clinic, she has to lose weight, that's not good for her.' He says that never happened." "Being talked down and made small, like 'you're so fat' and then I felt fat, I felt bad, I didn't have any self-worth." "The kids sometimes said 'come on, don't eat that much, don't have that. [...] [they noticed] that I didn't feel good." "My mum realised that I suffer because of [my eating habits]. I often let my feelings out on her because I was so discontent with myself. We often fought then. In general, I was in a bad mood often but put that down to other things when [...] asked why."
	Fear of Judgement, Stigmatisation & Prejudice	"When they see an overweight person, they think [that person] eats a lot." "The fatter isn't eating, at home she's probably stuffing her face." "I just started [...] going to the gym again. [...] Even though it's completely clear that a gym is for working on yourself [what other people think] shouldn't be important." "Doesn't matter what you do, you're not doing it right as a fat person." "When I was out with my work colleagues, I always, they look, you know, when you're overweight, they look, and then I always held back and only nibbled something." "[...] With my family I always had the feeling that I was being watched. [...] Like, how much I am putting on my plate, or how much sweets I am eating." "It was definitely [deteriorating] for my self-confidence, like how I don't want my partner to see me... It was definitely a hindrance for my sexual development, all the bodily aches, being out of breath quickly. Or not being able to do activities like others and because of that thinking 'I won't join in because I can't do it as well as the others.' It's an isolation that's self-inflicted. You know it is your own fault which makes you even more annoyed with yourself." "There were situations where I thought 'oh, I could have another portion' but I just controlled myself in that moment and thought 'no, not another big portion. It was a lot of pressure. [...] but I would eat in secret, when someone went to the bathroom and had some leftovers [on their plate]." "I would never eat a lot in front of strangers." "When I am at work I would [...] eat a salad [...]. I wouldn't overeat the portion." "I could control myself [at work]." "At work I couldn't eat the way I wanted. I had to wait for the breaks. Then I wolfed down everything, and afterwards [my stomach] was hurting and I was feeling tired. [...] My everyday life was centred around food."

Appendix 6: Copyright Statement

Affirmation

The undersigned EMELI NOACK postgraduate student of the Postgraduate Program "LIFESTYLE MEDICINE" of the University of Thessaly.

I declare responsibly that I accept the following terms concerning:

(a) the copyright of my Master's Thesis entitled “The Experience of Food Addiction and Eating Behaviours in Bariatric Surgery Patients: A Phenomenological Study”

(b) the management of the research data I will collect in the course of its elaboration:

1. The copyright of the resulting volume of the master's thesis will belong to me. I will follow the instructions for writing, printing and depositing copies of the dissertation in the relevant repositories (in printed and/or electronic form).
2. The management of the dissertation data belongs jointly to me and the Director of Studies/Main Supervisor.
3. Any scientific publication or announcement (posted or oral), or reference derived from the material/data of this work will be made with authors myself, the main supervisor and/or other researchers (such as a member of the three-member advisory committee), depending on their contribution to the research or the writing of the research paper(s).
4. The order of names in scientific publications or scientific announcements will be decided jointly by me and the main supervisor (DOS) of the project before it begins.

This decision will be certified in writing between myself and the main supervisor.

Finally, I declare that I am aware of the rules on plagiarism and intellectual property and that I will strictly follow them throughout my studies, I will attend to the educational obligations arising from this MSc, as well as will attend the publication procedures that will arise after the completion of my studies.

12.06.2025

EMELI NOACK