Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6, 1559-1576
2025
Publisher: Learning Gate
DOI: 10.55214/25768484.v9i6.8194

A bibliometric analysis of emotional eating in obesity research

Yustika Izziyatu Anindita[1*], Nining Febriyana[1,2]
[1]Department of Psychiatry, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia. izziyustika@gmail.com (Y.I.A.).
[2]Soetomo General Academic Hospital, Surabaya, Indonesia.

Abstract: Emotional eating is a complex behavioral phenomenon that plays a significant role in obesity and is influenced by psychological, environmental, as well as biological factors. Therefore, this research aimed to conduct a bibliometric analysis to map the trends in emotional eating related to obesity, providing insights into the evolution, key contributors, and emerging themes. Data were extracted from the Scopus database, covering publications from 1983 to 2024, and analyzed using VOSviewer with the Biblioshiny R package to visualize keyword co-occurrences and thematic trends. The results showed a steady increase in scholarly attention, with contributions from psychology, nutrition, and medical sciences. The most influential countries in the domain included the United States, the United Kingdom, and European nations, with significant institutional collaborations. Meanwhile, keyword analysis reported dominant research themes such as stress-induced eating, cognitive-behavioral therapy, emotional regulation, and neural mechanisms of food consumption. Different studies were increasingly focused on intervention strategies to mitigate the impact of emotional eating on obesity, emphasizing mindfulness-based therapies and personalized nutrition methods. Despite the growing literature, gaps remained in understanding cultural variations in emotional eating and the long-term effects of interventions. In this context, future research should integrate multidisciplinary methods, including neuroscience, genetics, and social sciences, to develop effective prevention and treatment strategies. Based on the description, this research contributed to the field by providing a comprehensive mapping that informed policymakers and healthcare professionals in designing targeted interventions for obesity management. By showing key trends and research gaps, the bibliometric analysis served as a foundation for future research on emotional eating and its implications for public health.

Keywords: *Bibliometric analysis, Cognitive-behavioral therapy, Emotional eating, Nutrition interventions, Obesity, Research trends.*

1. Introduction

Obesity is becoming an enormous public health concern worldwide [1, 2] and has been reported as a significant global health challenge, affecting millions of individuals across different age groups and socioeconomic backgrounds. This condition raises the risk of multiple diseases, including type 2 diabetes, high blood pressure and cholesterol, musculoskeletal problems, and various types of cancer [2]. Furthermore, the incidence has risen substantially over the previous four decades, and when current trends continue, the majority of the world's adult population will be obese by 2030 [3]. Overweight obesity is one of the complex health problems of adolescents related to genetics, biological factors, parenting, eating behavior, and the environment [4]. Eating behavior significantly affects overweight and obesity, where disorders in eating patterns are the main factor in the development [5, 6]. According to the World Health Organization (WHO), the prevalence of obesity has nearly tripled since 1975, with over 650 million adults classified as obese in 2016. In 2022, 160 million children were living with obesity, and 37 million were children under the age of 5 years. This alarming trend is not limited to high-income countries but increasingly affecting low- and middle-income nations. Improving obesity rates is a major

History: Received: 10 April 2025; Revised: 9 May 2025; Accepted: 13 May 2025; Published: 19 June 2025
* Correspondence: izziyustika@gmail.com

topic in public health debate since the concept has been connected to several health issues, such as cardiovascular illnesses, type 2 diabetes, and several types of cancer [7, 8].

Among the various factors contributing to obesity, psychological and behavioral aspects have gained considerable attention in recent years [9-11]. The most researched psychological factor is emotional eating, a phenomenon where individuals consume food in response to stress rather than physiological hunger [12, 13]. Emotional eating is often associated with anxiety, depression, and stress, leading to excessive calorie intake and weight gain [14]. Additionally, psychological conditions and pressure from social conditions cause survivors to vent by eating more. This behavioral pattern has been particularly concerning due to the strong correlation between obesity and related health risks [15, 16]. Numerous research have investigated the relationship between emotional eating and obesity, stating the effects of emotional distress on unhealthy eating habits. Individuals with higher levels of emotional eating tend to prefer high-fat and high-sugar food, which provides temporary comfort and contributes to long-term weight gain [17, 18]. The impact of emotional eating varies across demographic groups, influenced by gender, age, and cultural background [19]. Understanding these variations is crucial for developing targeted interventions and preventive measures.

To understand the research trends and scientific development of the emotional eating topic in obesity cases, comprehensive research is needed to provide knowledge to practitioners. Bibliometric analysis has become an essential tool for mapping research trends in various scientific fields, including mental health and nutrition. By systematically analyzing published literature, bibliometric research can identify key themes, influential authors, and topics. In the context of emotional eating and obesity, a bibliometric method provides valuable insights into the research evolution, reporting gaps and potential future directions. Therefore, this research aimed to conduct a bibliometric analysis of emotional eating in the context of obesity, using data from established academic databases. By examining publication trends, citation patterns, and thematic evolution, a comprehensive overview is offered concerning the method used to address the issue over time. The results are expected to assist policymakers and healthcare professionals in understanding the scope of existing knowledge and identifying areas requiring further investigation.

2. Methods

This research uses a bibliometric analysis to regularly map the landscape of emotional eating in obesity cases. Bibliometric analysis is a quantitative method that uses statistical and computational methods to assess a particular topic's impact, trends, and thematic evolution [20, 21]. Scholars in various disciplines are increasingly interested in bibliometric analyses since the results are useful to other scholars in amassing data on trends in a certain subject, giving a foundation for further directions [22, 23]. This research follows a PRISMA method to obtain the number of articles reviewed. The method consists of identification and efficiency criteria, including inclusion as well as exclusion processes, and final articles. The review articles were obtained and organized from an international and scientifically recognized database, namely Scopus. However, most reviewed articles are also indexed by Web of Science (WOS). Scopus is the most complete database in the world, containing various scientific products ranging from articles, conference papers, books, and book projects. This database is used as a basis for scientific contribution metrics from the community. The usage of Scopus also makes the database possible to examine the most recent advances of a specific issue.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

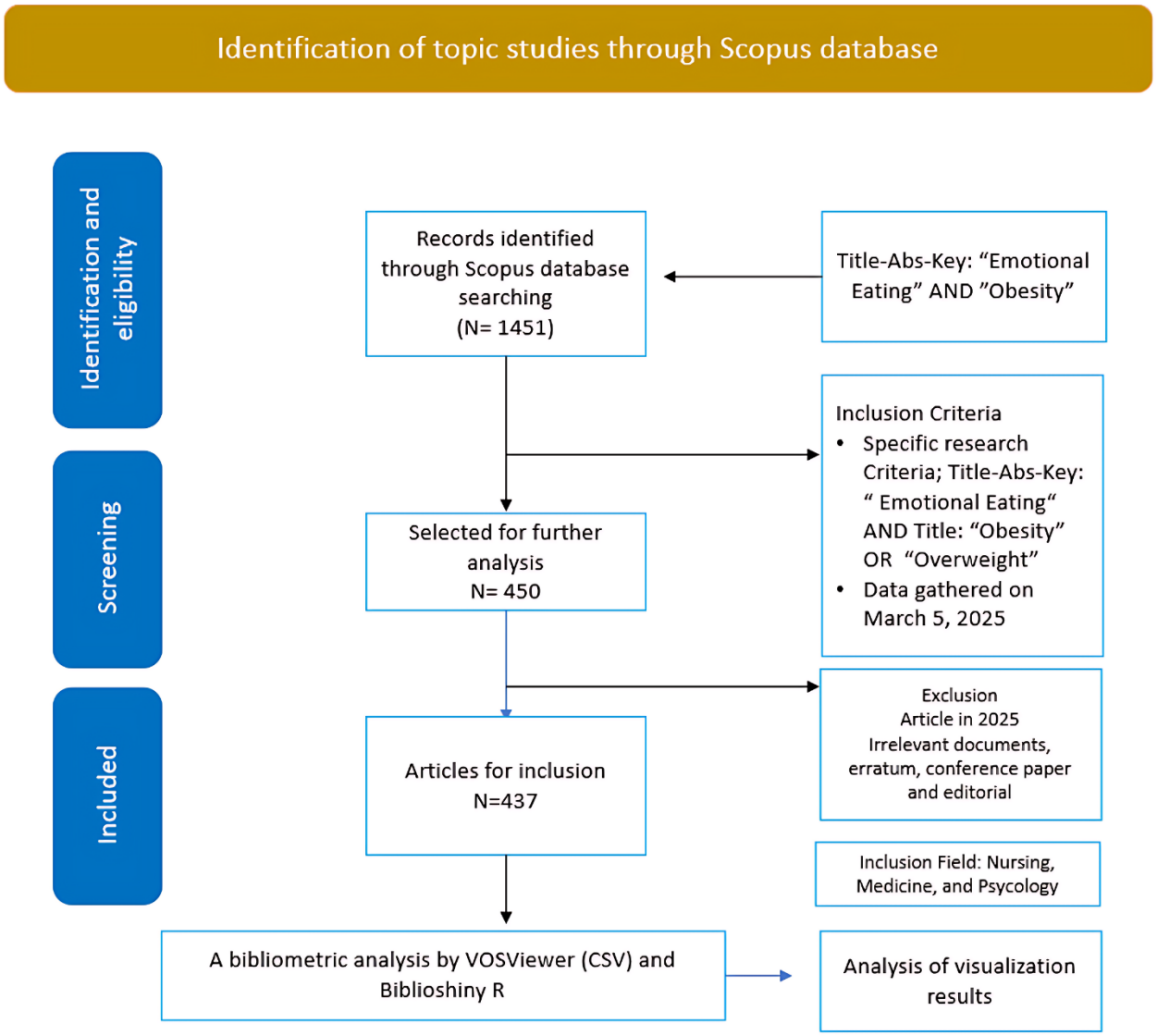

Figure 1.
Identification of Topic Research .

Figure 1 shows that inclusion and exclusion criteria are used to obtain the number of articles reviewed. In the identification process, the keywords emotional eating and obesity based on title-abstract-keywords were carried out. This initial identification found 1451 relevant articles. Furthermore, screening by applying several inclusion and exclusion criteria, consisting of the period analyzed (1983-2024), was carried out on the title of the article and exclusion was in the form of conferences, editorials, errata, and those that are not relevant to the topic. This research only focuses on three main relevant fields, namely medicine, nursing, and psychology, while excluding 437 articles.

Bibliometric analysis was conducted by referring to Scopus visualization data consisting of publication trends and data on the names of affiliations and countries with the highest contribution to the topic of emotional eating and obesity. Furthermore, data extraction was carried out using RIS (Research Information System) and CSV (Comma Separated Value), which were data used for topic and theme

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

mapping analysis with VOSviewer and Biblioshiny R. In this context, the two softwares can provide a comprehensive visualization of topic and theme clustering using the co-occurrence feature based on keywords in each reviewed article.

3. Results

3.1. Publication by Year and Descriptive Analysis

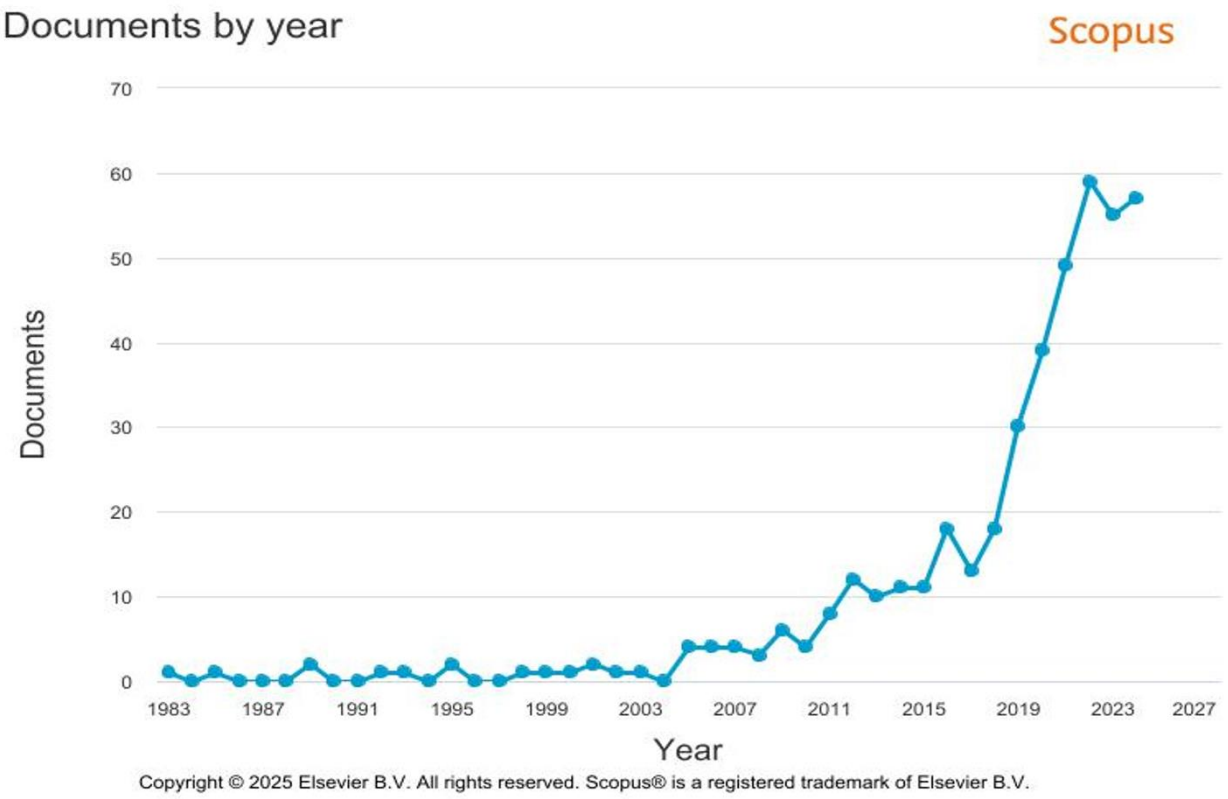

Figure 1.
Annual Output of Overweight and Emotional Eating Research (1983 – 2024).

This graph shows the publication trend on overweight and emotional eating in the Scopus database from 1983 to 2024. For over two decades, the number of publications per year tended to be low and stable, averaging less than 5 articles per year. Since 2015, the number has increased drastically, reaching a peak in 2020 with more than 60 publications. Despite the fluctuation, the number of publications remained high until 2024. This increase reflects the growing attention to the issue, driven by awareness of the physical and mental health impacts caused by overweight and emotional eating. The increasing publication trend also shows that this topic is relevant from an individual health perspective and concern in psychology.

3.2. Most Contributions of Authors, Institutions, Countries

Based on data from the Scopus database, the graph in the article shows that Annesi [10] has the largest contribution to research related to overweight and emotional eating, with more than 20 publications. This shows Annesi [10] deep focus on investigating the relationship between psychological factors and eating behavior. Bourdier, et al. [24] with more than 10 publications, is known for researching

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

emotional eating patterns in children and adolescents. Contributions from Betancourt-Núñez, et al. [18] also reflect a multidisciplinary method to understanding and managing the problem, covering medical, psychological, and social aspects.

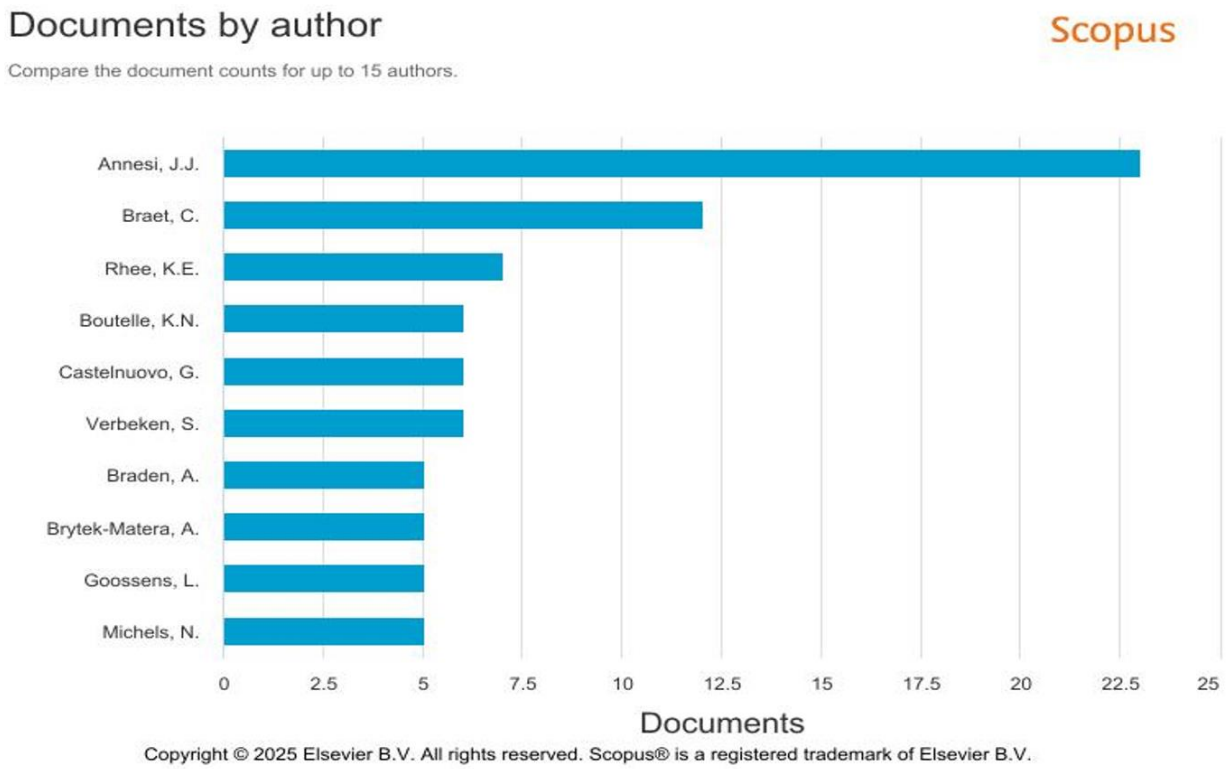

Figure 2.
Top 10 Authors on Overweight and Emotional Eating Research.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

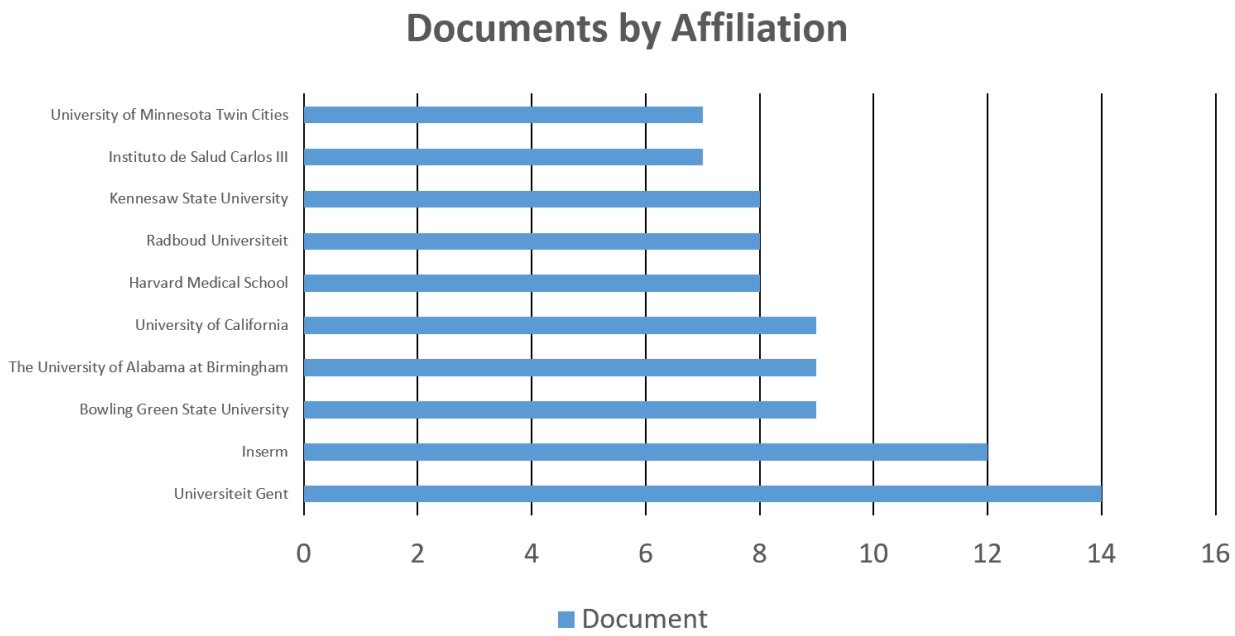

Figure 4.
Documents by Affiliation.

Based on data from the Scopus database, the *Documents by Affiliation* graph show that Universiteit Gent is the institution with the largest contribution to overweight and emotional eating research, with 14 publications. Inserm, a medical research institution in France with 12 publications, occupies the second position. Furthermore, Bowling Green State University, the University of Alabama at Birmingham, and the University of California, San Diego each recorded 9 publications. The significant contributions from various academic and medical institutions reflect cross-disciplinary collaboration in analyzing the impact of overweight and emotional eating from physical, mental, and social health perspectives. The dominance of institutions from Europe and the United States shows that this issue is a major concern in developed countries.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

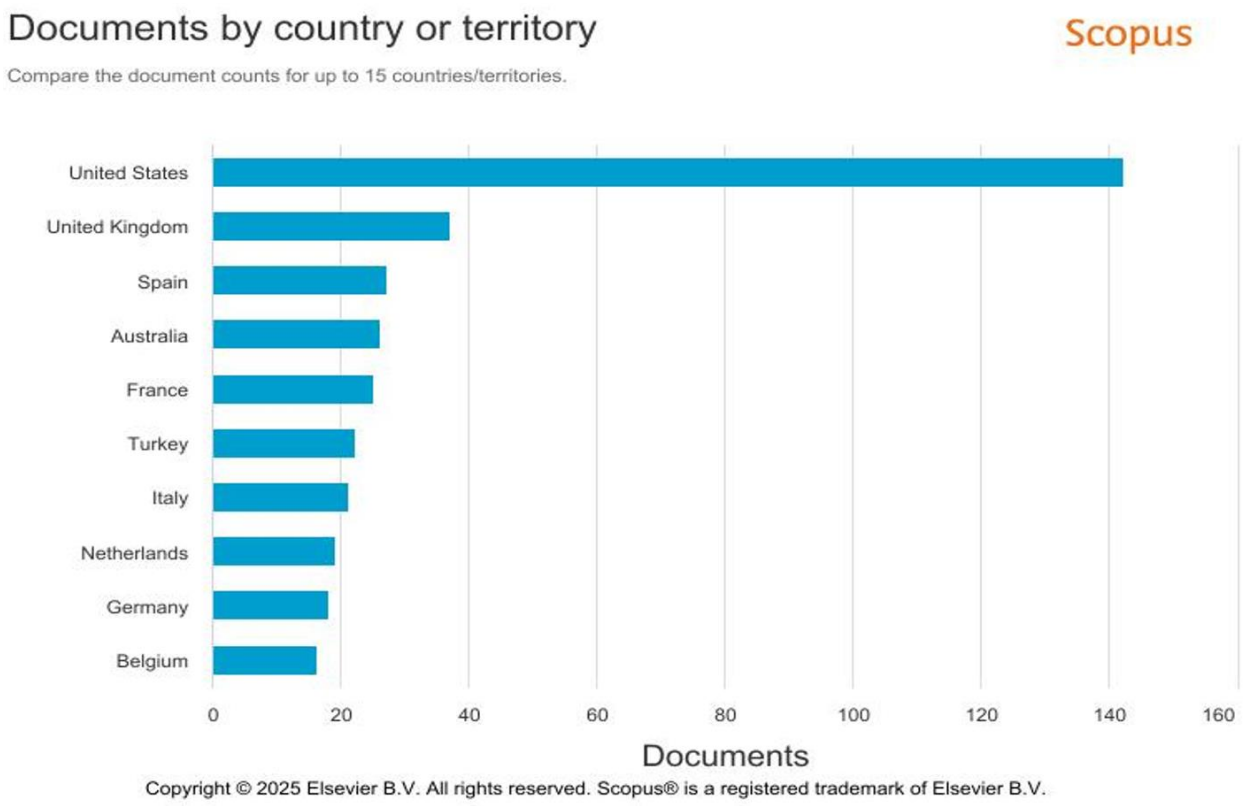

Figure 5.
Documents by Countries.

The *Documents by Country or Territory* database Scopus graph shows that the United States is the largest contributor, with more than 140 publications. This dominance reflects the high attention of research in the United States to the issue of overweight and emotional eating in line with the prevalence of the problem. The United Kingdom is second, followed by Spain, Australia, and France, which also contribute significantly. The inclusion of European countries, Australia, and Turkey confirms that attention to overweight and emotional eating is global, promoting cross-country collaboration to understand and address complex health challenges.

The issue of overweight and emotional eating has become a global concern including extensive collaboration from institutions and countries. Annesi [25] were reported as major contributors, reflecting a scientific method focused on the psychological and behavioral dimensions of eating. The contributions of institutions such as Universiteit Gent and Inserm strengthened the multidisciplinary understanding of the issue, including health, social, and psychological fields. At the global level, the United States dominates as the country with the most publications, followed by the United Kingdom and other European countries. This collaboration reflects the urgency of research on overweight and emotional eating as a growing health challenge.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

3.3. Most Influential Papers

Table 1.
The Most Cited Research.

No	Name	Title	Source	Year	Cited
1	O'Reilly, et al. [26]	Mindfulness-based interventions for obesity-related eating behaviors: A literature review	International Association for the Study of Obesity, 15(6), 453–461.	2014	347
2	Carnell, et al. [27]	Neuroimaging and obesity: Current knowledge and future directions	International Association for the Study of Obesity, 13(1), 43–56.	2012	335
3	Van Strien, et al. [28]	Causes of Emotional Eating and Matched Treatment of Obesity	Current diabetes reports 18(6).	2018	292
4	Geliebter and Aversa [29]	Emotional eating in overweight, normal-weight, and underweight individuals	Eating behaviors, 3(4), 341–347.	2003	291
5	Masheb and Grilo [30]	Emotional overeating and its associations with eating disorder psychopathology among overweight patients with binge eating disorder	The International journal of eating disorders, 39(2), 141–146.	2006	284
6	Singh, et al. [31]	Mood, food, and obesity	Frontiers in Psychology, 5, 925.	2014	282
7	Ganley [32]	Emotion and eating in obesity: A review of the literature	Int. J. Eat. Disord., 8: 343-361.	1989	273
8	Goossens, et al. [33]	Loss of control over eating in overweight youngsters: The role of anxiety, depression, and emotional eating	European Eating Disorders review: the journal of the Eating Disorders Association, 17(1), 68–78.	2009	207
9	Van Strien, et al. [28]	Eating style, overeating, and overweight in a representative Dutch sample. Does external eating play a role?	Appetite, 52(2), 380–387.	2009	205
10	Chang, et al. [34]	Motivators and Barriers to Healthful Eating and Physical Activity among Low-Income Overweight and Obese Mothers	Journal of the American Dietetic Association, 108(6), 1023–1028.	2008	184

Based on the publication data analyzed, research related to overweight and emotional eating is dominated by several articles with a high number of citations, reflecting a significant influence in the academic literature. The most cited publication is an article by O'Reilly, et al. [26] entitled "Mindfulness-Based Interventions for Obesity-Related Eating Behaviors: A Literature Review," which has received 347 citations. This research emphasizes the effectiveness of the mindfulness method in managing eating behaviors related to obesity, indicating a paradigm shift from conventional dietary methods focused on self-awareness and emotional regulation.

Research by Carnell, et al. [27] on "Neuroimaging and Obesity: Current Knowledge and Future Directions" serves as an essential foundation with 335 citations. This provides a deeper understanding of the brain in processing hunger, satiety, and emotional eating signals, which is the basis for developing more personalized interventions. Conversely, Van Strien [35] and Geliebter and Aversa [29] with 292 and 291 citations reported the causes of emotional eating and the variation between individuals with different body weights to strengthen the effects of psychological conditions on eating patterns.

The high number of citations in several major publications shows that the issue of overweight and emotional eating has become a significant concern in academic circles, especially in the last decade. This trend reflects the ongoing efforts to understand the complex relationship between emotions, eating behavior, and obesity, as well as promotes the development of effective intervention strategies.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

Additionally, multidisciplinary methods of health and medical aspects are increasingly recognized as relevant approaches to addressing this global health challenge.

3.4. Causes of Emotional Eating

Emotional eating is a phenomenon influenced by various psychosocial factors, including parenting patterns as well as peer and environmental pressure. Based on discussions in previous research, parenting patterns are important in forming emotional eating habits, especially through behavioral models [36]. Children who grow up in an environment where food is used as a reward or comfort tend to develop eating patterns influenced by emotions rather than physiological hunger. Van Strien, et al. [37] suggested that parents who frequently provide food as a reward or as a form of affection may indirectly teach children to associate food with emotional comfort, contributing to emotional eating habits later in life.

Goossens, et al. [33] reported that parents' habits in managing emotions could also affect children's eating patterns. Parents who tend to cope with stress or sadness by overeating often become models for children to adopt similar behavior [36]. Therefore, emotional eating can be learned through observation, where children imitate eating habits in response to unpleasant situations. In the long term, this habit increases the risk of being overweight, especially when the food consumed tends to be high in calories and low in nutrients.

Peer pressure and social environment are significant factors in promoting emotional eating, especially among adolescents and young adults [5]. Adolescents often face pressure to conform to ideal body standards promoted by social media and environments. Goossens, et al. [33] found that individuals who do not fit social beauty standards tend to be more anxious and use food to cope with these feelings. In this situation, food no longer functions to fulfill physiological needs but rather as an escape from emotional discomfort.

School and community environments play a significant role in shaping emotional eating habits [38]. For example, children who face bullying or high academic pressure develop emotional eating patterns to manage stress. Masheb and Grilo [30] showed that adolescents who faced significant social pressure relied on food to relieve emotional tension. This is increased by fast food easily accessible and often the first choice when individuals seek comfort.

In a broader context, socioeconomic factors strengthen the relationship between emotional eating and the causes [39]. Families with lower income levels tend to have less access to healthy eating, hence processed food high in calories is often the first choice. Therefore, emotional eating develops in response to financial stress and uncertainty, where food becomes the easiest and most affordable method to obtain comfort, which leads individuals to seek escape through the consumption of high-calorie food as a mechanism for emotional relief. Wong, et al. [36] reported that psychosocial stress contributed significantly to emotional eating behavior.

3.5. Theory Development

In developing a theory about emotional eating, psychosocial factors influencing the behavior must be considered. A relevant method is the theory of "trust and distrust" in the context of parenting and coping mechanisms [40]. This theory emphasizes that feelings of trust or distrust formed since childhood through interactions with primary caregivers can have a significant impact on the development of individual coping mechanisms.

Consistent and affectionate parenting tends to build a sense of self-confidence and security in children [41]. Conversely, inconsistent or less responsive parenting causes anxiety and distrust. Anxiety due to uncertainty in the relationship with caregivers enables children to seek alternative coping mechanisms through food consumption as an emotional escape [15, 42]. This is in line with research that individuals experiencing stress and anxiety tend to use food as a coping strategy to deal with negative emotions [43].

In a socioeconomic context, low-income families often face high financial stress and limited access to support resources, such as mental health facilities and parenting education programs [34]. These

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

limitations affect the development of healthy parenting patterns and adaptive coping mechanisms for parents and children. Therefore, the risk of developing emotional eating behavior as a response to stress and anxiety increases. Several theories have been developed due to internal and external factors of emotional eating cases in obesity cases, including:

3.5.1. Stress and Coping Theory

Emotional eating is often associated with individual coping mechanisms for stress. According to Lazarus and Folkman [38] stress is defined as a certain relationship between an individual and the environment assessed as a factor that burdens resources. The stress and coping theory has two dimensions, namely primary and secondary appraisals [44]. Primary appraisal includes evaluating the risks, demands, or challenges of a situation. Meanwhile, secondary appraisal evaluates the perceived availability of resources and the performance of activity to change situation outcomes [45].

The stress and coping theory developed by Lazarus and Folkman [38] is a psychological method that explains the response of individuals to situations considered stressful or threatening to well-being. This theory considers stress as an external stimulus and dynamic interaction between individuals and the environment, where subjective perception of threat greatly determines the stress response. This process begins with primary appraisal, namely individuals' assessment of the extent a situation becomes a threat, challenge, or loss. Individuals will conduct a secondary appraisal, namely an evaluation of the resources and abilities to cope with the situation when considered threatening. The two forms of coping are problem-focused and emotion-focused depending on the nature of the stressor and the individual's perceived control.

In the context of emotional eating in obesity, this theory provides an important framework for understanding the use of food as an emotional coping mechanism. Individuals facing stress with limited resources or abilities to cope adaptively with the situation may turn to emotion-focused coping, such as overeating, to relieve emotional tension. This functions as a short-term strategy to reduce anxiety, sadness, or stress. In the long term, health conditions worsen with increased risk of obesity. Therefore, this theory explains the psychological mechanisms behind maladaptive eating behavior and opens up opportunities for interventions that target increasing constructive coping abilities [46].

3.5.2. Emotion Regulation Theory

Emotional eating can be analyzed as a form of maladaptive emotion regulation strategy. Emotion regulation theory, developed by Gross [47] explained the process of managing, modifying, and controlling emotions to achieve adaptive goals [48]. According to this theory, emotion regulation occurs at various levels of emergence from antecedent-focused to response-focused strategies [49, 50]. The most well-characterized methods are cognitive reappraisal and expressive suppression [51]. Gross showed that adaptive emotion regulation was supportive of good mental health, while healthy strategies possessed negative influences on eating behavior.

In the obesity and emotional eating context, this theory can be highly applied in explaining the use of food to regulate aversive emotions, such as frustration, loneliness, anxiety, or stress [52]. For example, individuals stressed at work but low in good reappraisal can suppress emotions, with subsequent escape through binge eating of high-fat or high-sugar food as a response to emotions. This includes a less adaptive response-oriented strategy, which potentially strengthens repeated emotional eating as a habitual behavior. Research showed that individuals with poor emotion regulation were more vulnerable to overeating, especially when exposed to psychosocial stressors. Therefore, healthy emotion regulation strategies should be facilitated in managing obesity with an emotional component.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

3.5.3. Cognitive Neuroscience Theory

Eating disorders are influenced by psychological and behavioral conditions as well as neuroscience. This shows that the brain has a role in decision-making and processing emotions. Based on some neuroscience research, high serotonin levels are connected to personality qualities, including compulsivity, rigidity, anxiety, and perfectionism, which are typical of anorexia [53]. In this context, brain regions such as the amygdala and the prefrontal cortex play a key role [54]. The amygdala becomes more active when individuals experience stress or negative emotions, while activity in the prefrontal cortex decreases [27]. Therefore, self-control weakens, and individuals tend to seek instant comfort through food high in sugar or fat to stimulate the brain's reward system, especially the dopaminergic pathway in the nucleus accumbens [55]. This makes emotional eating a form of neurological "emotional escape." For example, individuals who have just experienced a conflict at work may feel highly stressed. Neurologically, this condition increases the activity of the amygdala, which induces a sense of anxiety or anger. The brain automatically looks for quick ways to feel good, such as eating ice cream or chocolate. This food triggers the release of dopamine, providing a sensation of "reward" or momentary satisfaction. Since the prefrontal cortex activity in charge of controlling urges decreases due to stress, individuals fail to control food portions. This pattern is repeated in cases of emotional eating, and cognitive neuroscience theory explains the underlying brain mechanisms [56].

Bad parenting experiences in life have long-term effects on the neurobiological systems that respond to stress. This condition causes hypoactivation of the hypothalamic-pituitary-adrenal (HPA) axis, leading to opposing neurovegetative symptoms, such as increased food intake and weight gain, compared to decreased appetite and weight loss [37].

3.5.4. Eating Behavior and Motivation Theory

Eating Behavior and Motivation Theory based on Self-Determination Theory (SDT) from Deci and Ryan [57] explains that emotional eating and obesity are greatly influenced by intrinsic or extrinsic motivation [58]. In the context of SDT, when basic psychological needs including autonomy, competence, and relatedness are fulfilled, individuals tend to develop healthier and more controlled eating behavior. Individuals are more prone to using food as emotional compensation when these needs are inhibited. Therefore, emotional eating is reported as an unhealthy form of coping when psychological needs are unfulfilled [59].

Concerning obesity, SDT suggests that individuals with more extrinsic motivations for eating, such as eating to relieve stress and fulfill social pressure are at higher risk for obesity. In contrast, those who eat based on intrinsic motivations, such as the desire to take care of the body and feel healthy, tend to have more stable weights. For example, individuals who feel lonely may be driven to engage in emotional eating by consuming high-calorie food as a substitute for social connection, contributing to weight gain and obesity. Therefore, SDT-based methods for obesity typically focus on building internal motivation and fulfilling basic psychological needs, rather than imposing dietary restrictions [60].

3.5.5. Environmental Theory and Obesity

Eating habits that lead to the prevalence of obesity are influenced by the environment. Emotional eating in obesity cases is more or less influenced by the surrounding conditions and environment. The idea of an obesogenic environment describes the possibility of increasing a person's risk of gaining weight by social, cultural, economic, and physical factors [59]. Physical surroundings influencing the maintenance of healthy lives include a high supply of fast food and a lack of open areas for exercise. Emotional eating behavior in response to negative feelings is triggered by social contextual factors, including peer pressure, family eating patterns, and stress from social connections or work conditions [61, 62].

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

Emotional eating is seen as a coping strategy for long-term environmental stress in the setting of obesity. The combination of high-stress levels and easy access to high-calorie, low-nutrient meals in densely populated urban areas leads to a vicious cycle of overconsumption as a coping mechanism for emotional stress. Theoretically, economic considerations play a role in the relationship between the environment and obesity since less well-off individuals have less access to facilities for exercise and good eating options. Therefore, a social ecology perspective, which situates individuals in a complex web of environmental effects should be incorporated into theoretical models connecting obesity to the environment.

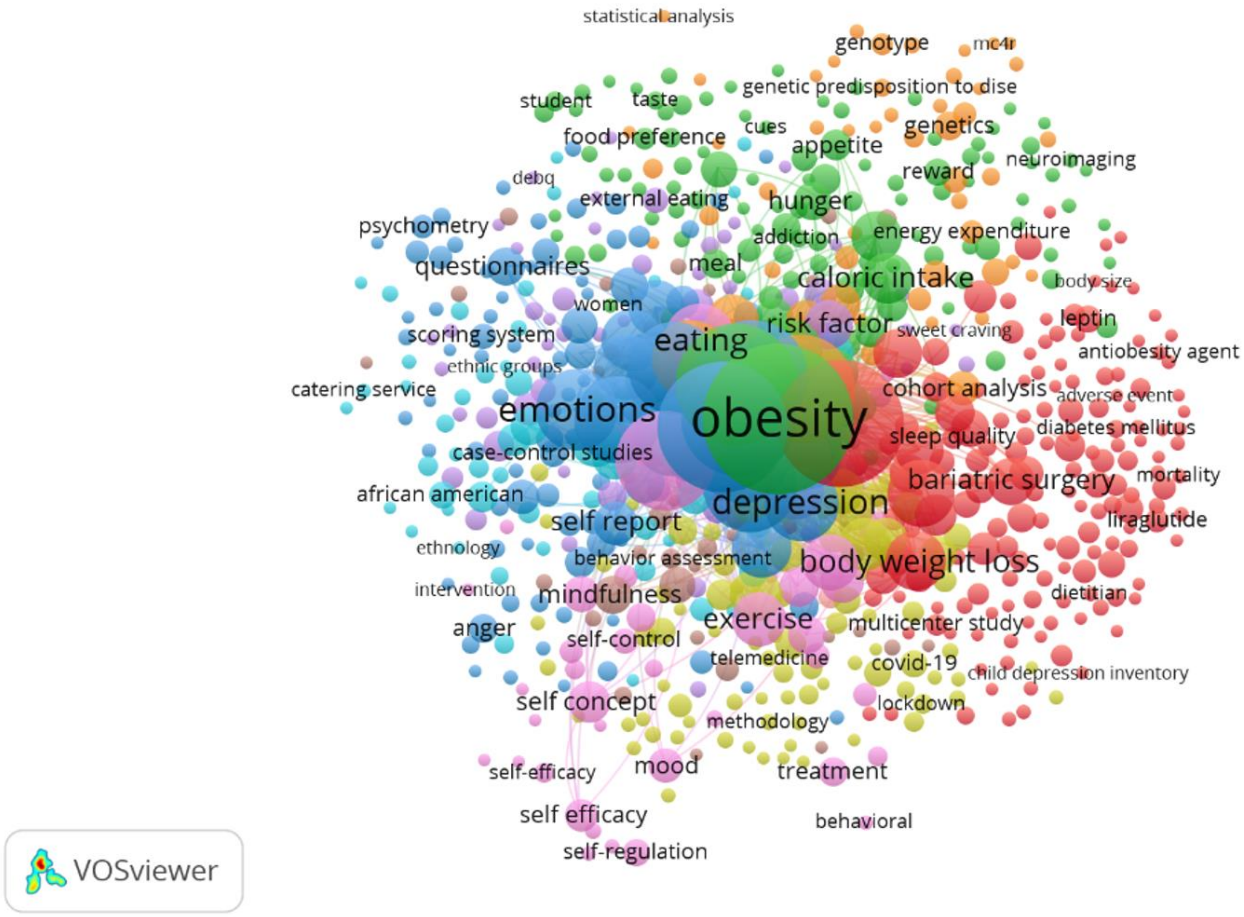

Figure 6.
Cluster Analysis Emotional Eating Research.

3.6. Cluster Analysis

Cluster 1: The red cluster reflects the topic of obesity from a medical and psychological perspective, including fat accumulation and internal causal factors such as genetic predisposition, metabolic disorders, and mental conditions [63, 64]. The use of antidepressants also worsens the condition because the side effects increase appetite and weight in individuals with impulse control disorders [24]. External factors such as a sedentary lifestyle, alcohol consumption, and the use of antidepressant agents also reinforce the emotional eating cycle through the effects on the central nervous system and regulation [65]. In this context, food is a biological need and a tool for regulating unhealthy emotions, reinforcing the relationship

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

between psychological conditions and maladaptive eating patterns [37]. These results show that obesity is rooted in physical factors and maintained by complex emotional dynamics.

Cluster 2: The green cluster shows the biopsychosocial dimension as a major risk factor in emotional eating behavior. The biological aspects such as weight status are closely related to the dysfunction of the neuroendocrine system regulating hunger and satiety [66]. From a psychological perspective, disorders such as binge eating, depression, and psychosis trigger excessive food consumption, especially in negative emotional conditions such as anger, anxiety, or sadness [67]. Social context is also important, where family support, peer pressure, economic limitations, and access to healthy food influence the frequency and types of food consumed [68]. Research shows that social pressure and inequality in the food environment strengthen emotional eating patterns among adolescents [69]. This cluster emphasizes that emotional eating is an individual response and part of a complex dynamic between the body, mind, and social environment influencing each other and requiring a cross-disciplinary method.

Cluster 3: The purple cluster emphasizes the relationship between emotional eating and dysfunctional regulation, which can develop into disorders such as binge eating, chronic anxiety, and major depression as measured by instruments such as the Beck Depression Inventory [70, 71]. An individual's inability to manage the urge to eat in emotional situations reflects a weak self-control function. In psychodynamic and attachment theory, this is closely related to parenting style, personality structure, and childhood affective patterns [35]. Emotional eating has an impact on mental health and triggers physiological changes such as visceral fat accumulation and metabolic dysfunction [25]. In many cases, individuals who experience poor emotion regulation also show psychotic symptoms such as mild hallucinations or perceptual disturbances when accompanied by antidepressants or antipsychotics without therapeutic control [72]. Therefore, interventions that emphasize strengthening self-regulation, such as mindfulness-based therapy, cognitive behavioral therapy, and psychodynamic psychotherapy, are considered the most effective in comprehensively addressing the roots of emotional eating [73].

Cluster 4: The orange cluster represents the genetic dimension as an important biological foundation in understanding the tendency towards emotional eating and obesity. Individuals with a family history of obesity or psychiatric disorders tend to have a neurobiological vulnerability to dysregulation of emotions and impulses in managing stress through emotional eating [74]. This inheritance pattern is seen in genes that regulate the reward system, especially the dopamine and serotonin pathways in forming compulsive eating habits [74, 75]. In addition, genetic predisposition affects metabolic rate, fat storage, and sensitivity to high-fat and high-sugar food that worsen the obesity cycle when unbalanced with a healthy lifestyle [76]. Genetic factors may weaken the effectiveness of exercise or diet-based interventions, especially in individuals with certain gene expressions resistant to metabolic changes [76]. Therefore, a personalized method based on genetic profiling is important in the design of therapies for obesity and eating disorders [77]. This cluster confirms that the understanding of emotional eating cannot be separated from the biological predisposition of psychological and social responses.

Cluster 5: The blue cluster focuses on the close relationship between depression and emotional eating as conditions for reinforcing each other in a pathological cycle. Individuals with depression often experience extreme mood swings, loss of motivation, and social isolation [78]. Emotional eating in individuals with depression worsens physical conditions such as obesity and reinforces feelings of guilt and low self-esteem that deepen the depressive condition [55, 79]. The use of antidepressants such as SSRI or SNRI causes increased appetite and weight. This is not recognized as part of the relationship between emotional regulation and eating patterns [80]. Sleep disturbances and mild psychosis, such as hallucinations or delusions, can accompany severe depression. In this context, emotional eating becomes a dysfunctional coping strategy that is dangerous when not addressed multidimensionally [81, 82]. The research also shows that conventional therapy is ineffective when uncombined with cognitive-based psychological methods and self-regulation reinforcement, especially in patients with comorbid eating disorders [83]. This cluster reports that emotional eating and depression have a complex reciprocal

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

relationship and require psychopharmacological and psychotherapeutic interventions for individuals' psychological profiles.

4. Conclusion

In conclusion, emotional eating in obesity cases was reported as a phenomenon with a broad scope and varied methods. This analysis was conducted to map the development and trends of emotional eating research in the context of obesity using a bibliometric method based on data from Scopus. From 2019 to 2023, there was a significant increase in publications discussing emotional eating, reflecting the increasing global attention to the psychological dimension in treating obesity. The issue of emotional eating was no longer a supporting topic but a central part of obesity research. Structurally, the clustering results reported five main clusters for different research focuses and directions. The red cluster showed the neuropsychological dimension including the response of the brain to food as a form of emotional escape. The green cluster suggested the relationship between emotional eating and problems of depression, anxiety, and poor emotional regulation. Meanwhile, the blue cluster focused on the relationship between emotional eating and impulse control as well as self-regulation. The yellow cluster emphasized the inclusion of environmental and social factors, such as cultural body pressure and obesity stigma. The purple cluster was more directed at aspects of eating behavior and intervention strategies based on mindfulness or cognitive behavioral therapy. The results reported the complexity of the emotional eating phenomenon and reflected the development of theories affecting this research.

This research provided a deeper understanding of emotional eating, especially in the context of obesity. From a practical perspective, the results offered important insights for health practitioners in designing more targeted interventions with a method that considered the psychological identification of obesity survivors. The conceptual contribution was in the systematic mapping of the direction, trends, and theories developed in this research. Therefore, research gaps could be identified in developing new methods or connecting emotional eating to broader mental health or social issues through mapping.

This research had limitations because only emotional eating was considered in the context of obesity. Emotional eating behavior was also found in various other conditions, such as binge eating disorder in adolescents. For the development of further analysis, the focus of emotional eating research should be expanded into the context of other eating disorders to obtain a comprehensive and relevant image across populations.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Acknowledgements:

The authors would like to express sincere gratitude to all parties who provided valuable support and insights during the preparation of this research. This study was conducted independently and did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

[1] J. Spinosa, P. Christiansen, J. M. Dickson, V. Lorenzetti, and C. A. Hardman, "From socioeconomic disadvantage to obesity: the mediating role of psychological distress and emotional eating," *Obesity*, vol. 27, no. 4, pp. 559-564, 2019. https://doi.org/10.1002/oby.22402

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

[2] A. Dakanalis *et al.*, "The association of emotional eating with overweight/obesity, depression, anxiety/stress, and dietary patterns: A review of the current clinical evidence," *Nutrients*, vol. 15, no. 5, p. 1173, 2023. https://doi.org/10.3390/nu15051173
[3] R. N. Haththotuwa, C. N. Wijeyaratne, and U. Senarath, "Worldwide epidemic of obesity," Elsevier, 2020, pp. 3-8.
[4] R. M. Baños *et al.*, "Relationship between eating styles and temperament in an Anorexia Nervosa, healthy control, and morbid obesity female sample," *Appetite*, vol. 76, pp. 76-83, 2014. https://doi.org/10.1016/j.appet.2014.01.012
[5] E. Guerrero-Hreins, L. Stammers, L. Wong, R. M. Brown, and P. Sumithran, "A comparison of emotional triggers for eating in men and women with obesity," *Nutrients*, vol. 14, no. 19, p. 4144, 2022. https://doi.org/10.3390/nu14194144
[6] Y. S. Efe, H. Özbey, E. Erdem, and N. Hatipoğlu, "A comparison of emotional eating, social anxiety and parental attitude among adolescents with obesity and healthy: A case-control study," *Archives of psychiatric nursing*, vol. 34, no. 6, pp. 557-562, 2020. https://doi.org/10.1016/j.apnu.2020.09.007
[7] A. Rice *et al.*, "Associations among alexithymia, disordered eating, and depressive symptoms in treatment-seeking adolescent military dependents at risk for adult binge-eating disorder and obesity," *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, vol. 27, no. 8, pp. 3083-3093, 2022. https://doi.org/10.1007/s40519-022-01429-z
[8] J. J. Annesi, "Effects of cardiovascular exercise on eating behaviours: Accounting for effects on stress, depression-, and anger-related emotional eating in women with obesity," *Stress and Health*, vol. 40, no. 4, p. e3364, 2024. https://doi.org/10.1002/smi.3364
[9] P. Stapleton, T. Spinks, and B. Carter, "Psychological determinants of continued obesity one-year postbariatric surgery," *Psychological Reports*, vol. 123, no. 4, pp. 1044-1063, 2020. https://doi.org/10.1177/0033294119844983
[10] J. J. Annesi, "Psychological predictors of weight loss based on participants' predispositions: obesity treatment implications," *The Permanente Journal*, vol. 25, p. 21.076, 2021. https://doi.org/10.7812/TPP/21.076
[11] B. Gaudrat, S. Andrieux, V. Florent, and A. Rousseau, "Psychological characteristics of patients seeking bariatric treatment versus those seeking medical treatment for obesity: is bariatric surgery a last best hope?," *Eating and weight disorders-studies on anorexia, bulimia and obesity*, vol. 26, pp. 949-961, 2021. https://doi.org/10.1007/s40519-020-00934-3
[12] C. Cipolla *et al.*, "Eating habits and lifestyle in children with obesity during the COVID19 lockdown: a survey in an Italian center," *Acta Bio Medica: Atenei Parmensis*, vol. 92, no. 2, p. e2021196, 2021. https://doi.org/10.23750/abm.v92i2.10912
[13] J. Kaur, A. B. Dang, J. Gan, Z. An, and I. Krug, "Night eating syndrome in patients with obesity and binge eating disorder: a systematic review," *Frontiers in psychology*, vol. 12, p. 766827, 2022. https://doi.org/10.3389/fpsyg.2021.766827
[14] T. Witaszek, M. Babicki, A. Brytek-Matera, A. Mastalerz-Migas, K. Kujawa, and K. Kłoda, "Maladaptive eating behaviours, generalised anxiety disorder and depression severity: A comparative study between adult women with overweight, obesity, and normal body mass index range," *Nutrients*, vol. 16, no. 1, p. 80, 2023. https://doi.org/10.3390/nu16010080
[15] L. Cifuentes *et al.*, "Association between anxiety and eating behaviors in patients with obesity," *Obesity Pillars*, vol. 3, p. 100021, 2022. https://doi.org/10.1016/j.obpill.2022.100021
[16] B. M. Arum Anjani, D. N. Adiwibawa, I. R. Farmananda, and K. D. Pramana, "The relationship of gadget addiction and diet pattern to the body mass index (bmi) of adolescents ages 15-17 years old," *Surabaya Psychiatry Journal/Jurnal Psikiatri Surabaya*, vol. 12, no. 2, 2023. https://doi.org/10.20473/jps.v12i2.42253
[17] J. Reents and A. Pedersen, "Differences in food craving in individuals with obesity with and without binge eating disorder," *Frontiers in psychology*, vol. 12, p. 660880, 2021. https://doi.org/10.3389/fpsyg.2021.660880
[18] A. Betancourt-Núñez *et al.*, "Emotional eating and dietary patterns: Reflecting food choices in people with and without abdominal obesity," *Nutrients*, vol. 14, no. 7, p. 1371, 2022. https://doi.org/10.3390/nu14071371
[19] A. A. Gibrata, R. T. Kalalo, N. Febriyana, and R. Irawan, "Relationship of physical change and social culture with the risk of eating disorder in students from one of surabaya high school," *Surabaya Psychiatry Journal/Jurnal Psikiatri Surabaya*, vol. 13, no. 2, pp. 146-153, 2024. https://doi.org/10.20473/jps.v13i2.50503
[20] D. Mukherjee, W. M. Lim, S. Kumar, and N. Donthu, "Guidelines for advancing theory and practice through bibliometric research," *Journal of business research*, vol. 148, pp. 101-115, 2022. https://doi.org/10.1016/j.jbusres.2022.04.042
[21] N. Donthu, S. Kumar, D. Mukherjee, N. Pandey, and W. M. Lim, "How to conduct a bibliometric analysis: An overview and guidelines," *Journal of business research*, vol. 133, pp. 285-296, 2021. https://doi.org/10.1016/j.jbusres.2021.04.070
[22] K. K. Saules, M. M. Carr, and K. M. Herb, "Overeating, overweight, and substance use: what is the connection?," *Current Addiction Reports*, vol. 5, pp. 232-242, 2018. https://doi.org/10.1007/s40429-018-0208-9
[23] F. N. Aziz, A. Roziqin, M. J. Loilatu, T. Sulistyaningsih, Y. S. Hijri, and Kismartini, "Research trends of creative industries in Indonesia: A bibliometric analysis," *Journal of the Knowledge Economy*, vol. 15, no. 1, pp. 2571-2588, 2024. https://doi.org/10.1007/s13132-023-01299-5

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

[24] L. Bourdier, M. Fatseas, A.-S. Maria, A. Carre, and S. Berthoz, "The psycho-affective roots of obesity: results from a French study in the general population," *Nutrients*, vol. 12, no. 10, p. 2962, 2020. https://doi.org/10.3390/nu12102962
[25] J. J. Annesi, "Effects of mood on self-regulating physical activity and sweets intake within obesity treatments," *Nutrition and Health*, vol. 28, no. 2, pp. 143-148, 2022. https://doi.org/10.1177/02601060221078157
[26] G. A. O'Reilly, L. Cook, D. Spruijt-Metz, and D. Black, "Mindfulness-based interventions for obesity-related eating behaviours: a literature review," *Obesity reviews*, vol. 15, no. 6, pp. 453-461, 2014. https://doi.org/10.1111/obr.12156
[27] S. Carnell, C. Gibson, L. Benson, C. Ochner, and A. Geliebter, "Neuroimaging and obesity: current knowledge and future directions," *Obesity reviews*, vol. 13, no. 1, pp. 43-56, 2012. https://doi.org/10.1111/j.1467-789X.2011.00927.x
[28] T. Van Strien, J. E. Frijters, G. P. Bergers, and P. B. Defares, "The dutch eating behavior questionnaire(DEBQ) for assessment of restrained, emotional, and external eating behavior," *International journal of eating disorders*, vol. 5, no. 2, pp. 295-315, 1986.
[29] A. Geliebter and A. Aversa, "Emotional eating in overweight, normal weight, and underweight individuals," *Eating behaviors*, vol. 3, no. 4, pp. 341-347, 2003. https://doi.org/10.1016/S1471-0153(02)00100-9
[30] R. M. Masheb and C. M. Grilo, "Emotional overeating and its associations with eating disorder psychopathology among overweight patients with binge eating disorder," *International Journal of Eating Disorders*, vol. 39, no. 2, pp. 141-146, 2006. https://doi.org/10.1002/eat.20221
[31] M. V. Singh *et al.*, "Ca 2+/calmodulin-dependent kinase II triggers cell membrane injury by inducing complement factor B gene expression in the mouse heart," *The Journal of clinical investigation*, vol. 119, no. 4, pp. 986-996, 2009.
[32] J. T. Ganley, "Particulate formation in spark-ignition engine exhaust gas," Doctoral Dissertation, University of Michigan, 1973.
[33] L. Goossens, C. Braet, L. Van Vlierberghe, and S. Mels, "Loss of control over eating in overweight youngsters: the role of anxiety, depression and emotional eating," *European Eating Disorders Review: The Professional Journal of the Eating Disorders Association*, vol. 17, no. 1, pp. 68-78, 2009. https://doi.org/10.1002/erv.892
[34] M.-W. Chang, S. Nitzke, E. Guilford, C. H. Adair, and D. L. Hazard, "Motivators and barriers to healthful eating and physical activity among low-income overweight and obese mothers," *Journal of the American Dietetic Association*, vol. 108, no. 6, pp. 1023-1028, 2008. https://doi.org/10.1016/j.jada.2008.03.004
[35] T. Van Strien, "Causes of emotional eating and matched treatment of obesity," *Current diabetes reports*, vol. 18, pp. 1-8, 2018. https://doi.org/10.1007/s11892-018-1000-x
[36] L. Wong, L. Stammers, L. Churilov, S. Price, E. Ekinci, and P. Sumithran, "Emotional eating in patients attending a specialist obesity treatment service," *Appetite*, vol. 151, p. 104708, 2020. https://doi.org/10.1016/j.appet.2020.104708
[37] T. Van Strien, C. P. Herman, and M. W. Verheijden, "Eating style, overeating, and overweight in a representative Dutch sample. Does external eating play a role?," *Appetite*, vol. 52, no. 2, pp. 380-387, 2009. https://doi.org/10.1016/j.appet.2008.11.010
[38] R. S. Lazarus and S. Folkman, *Stress, appraisal, and coping*. Springer, 1984.
[39] D. Evgïn and K. M. Kılıç, "Relationship between healthy life awareness, emotional eating, obesity awareness, and coping stress in adolescents," *Psychology in the Schools*, vol. 60, no. 6, pp. 1898-1917, 2023. https://doi.org/10.1002/pits.22834
[40] C. M. Murphy, M. K. Stojek, and J. MacKillop, "Interrelationships among impulsive personality traits, food addiction, and body mass index," *Appetite*, vol. 73, pp. 45-50, 2014. https://doi.org/10.1016/j.appet.2013.10.008
[41] J. J. Annesi, "Mediators of relations of obesity treatment-associated changes in mood and weight: extending cross-sectional research," *Translational Behavioral Medicine*, vol. 11, no. 12, pp. 2071-2080, 2021. https://doi.org/10.1093/tbm/ibab074
[42] A. Guerrini Usubini *et al.*, "Corrigendum: The mediating role of psychological inflexibility in the relationship between anxiety, depression, and emotional eating in adult individuals with obesity," *Frontiers in Psychology*, vol. 13, p. 1035132, 2022. https://doi.org/10.3389/fpsyg.2022.1035132
[43] L. Kudlek *et al.*, "The impact of behavioral weight management interventions on eating behavior traits in adults with overweight or obesity: A systematic review and meta-analysis," *Obesity Reviews*, vol. 26, no. 4, p. e13871, 2025. https://doi.org/10.1111/obr.13871
[44] S. Folkman, "Stress: Appraisal and coping. In Encyclopedia of behavioral medicine." New York: Springer, 2013, pp. 1913-1915.
[45] D. Hill *et al.*, "Stress and eating behaviours in healthy adults: A systematic review and meta-analysis," *Health Psychology Review*, vol. 16, no. 2, pp. 280-304, 2022. https://doi.org/10.1080/17437199.2021.1923406
[46] E. M. Forman, K. L. Hoffman, A. S. Juarascio, M. L. Butryn, and J. D. Herbert, "Comparison of acceptance-based and standard cognitive-based coping strategies for craving sweets in overweight and obese women," *Eating behaviors*, vol. 14, no. 1, pp. 64-68, 2013. https://doi.org/10.1016/j.eatbeh.2012.10.016
[47] J. J. Gross, "The emerging field of emotion regulation: An integrative review," *Review of general psychology*, vol. 2, no. 3, pp. 271-299, 1998.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

[48] L. Vervoort *et al.*, "Subtyping youngsters with obesity: a theory-based cluster analysis," *Appetite*, vol. 168, p. 105723, 2022. https://doi.org/10.1016/j.appet.2021.105723

[49] T. Debeuf *et al.*, "Emotion regulation training as an add-on in the treatment of obesity in young adolescents: a randomized controlled superiority trial," *Behavior therapy*, vol. 55, no. 4, pp. 839-855, 2024. https://doi.org/10.1016/j.beth.2023.12.005

[50] A. V. Valero-García, M. Olmos-Soria, J. Madrid-Garrido, I. Martínez-Hernández, and E. Haycraft, "The role of regulation and emotional eating behaviour in the early development of obesity," *International Journal of Environmental Research and Public Health*, vol. 18, no. 22, p. 11884, 2021. https://doi.org/10.3390/ijerph182211884

[51] E. Boelens, C. Braet, T. Debeuf, L. Wante, B. Volkaert, and S. Verbeken, "A brief emotion regulation training in children and adolescents with obesity: A feasibility study," *Obesity Research & Clinical Practice*, vol. 16, no. 4, pp. 330-336, 2022. https://doi.org/10.1016/j.orcp.2022.07.006

[52] L. R. Chawner and M. L. Filippetti, "A developmental model of emotional eating," *Developmental Review*, vol. 72, p. 101133, 2024. https://doi.org/10.1016/j.dr.2024.101133

[53] D. Sketriene, S. S. Ch'ng, and R. M. Brown, "Harnessing addiction neuroscience to treat obesity," in anti-obesity drug discovery and development, vol. 5, the florey institute of neuroscience & mental health, melbourne, VIC." Australia: Bentham Science Publishers, 2021, pp. 66–123.

[54] C. Clemmensen, M. B. Petersen, and T. I. Sørensen, "Will the COVID-19 pandemic worsen the obesity epidemic?," *Nature Reviews Endocrinology*, vol. 16, no. 9, pp. 469-470, 2020. https://doi.org/10.1038/s41574-020-0387-z

[55] K. Wijnant *et al.*, "Stress responsiveness and emotional eating depend on youngsters' chronic stress level and overweight," *Nutrients*, vol. 13, no. 10, p. 3654, 2021. https://doi.org/10.3390/nu13103654

[56] B. Boh *et al.*, "Indulgent thinking? Ecological momentary assessment of overweight and healthy-weight participants' cognitions and emotions," *Behaviour research and therapy*, vol. 87, pp. 196-206, 2016. https://doi.org/10.1016/j.brat.2016.10.001

[57] E. L. Deci and R. M. Ryan, "The general causality orientations scale: Self-determination in personality," *Journal of research in personality*, vol. 19, no. 2, pp. 109-134, 1985.

[58] R. M. Ryan and E. L. Deci, "Self-determination theory and the facilitation of intrinsic 23 motivation, social development, and well-being," *Am. Psycologist*, vol. 55, no. 1, pp. 68–78, 2000. https://doi.org/10.4324/9780429052675-23

[59] E. Ahlich, S. P. Goldstein, and J. G. Thomas, "Characterizing emotional eating: Ecological momentary assessment with person-specific modeling," *Appetite*, vol. 183, p. 106476, 2023. https://doi.org/10.1016/j.appet.2023.106476

[60] C. Bégin, A. Fecteau, M. Côté, A. Bédard, C. Senécal, and C. Ratté, "Disordered eating behaviors through the lens of self-determination theory," *Europe's journal of psychology*, vol. 14, no. 3, p. 571, 2018. https://doi.org/10.5964/ejop.v14i3.1577

[61] H. Dressler and C. Smith, "Health and eating behavior differs between lean/normal and overweight/obese low-income women living in food-insecure environments," *American Journal of Health Promotion*, vol. 27, no. 6, pp. 358-365, 2013. https://doi.org/10.4278/ajhp.120119-QUAL-55

[62] K. N. Balantekin *et al.*, "Patterns of eating disorder pathology are associated with weight change in family-based behavioral obesity treatment," *Obesity*, vol. 25, no. 12, pp. 2115-2122, 2017. https://doi.org/10.1002/oby.22028

[63] S. Hajian and A. Fathnezhad-Kazemi, "Comparison of health-promoting behaviours, eating behaviour patterns and perceived social support in normal-weight and overweight pregnant women: An unmatched case–control study," *Nursing Open*, vol. 7, no. 3, pp. 751-759, 2020. https://doi.org/10.1002/nop2.447

[64] M. Zak, L. Kiro, O. Chernyshov, and M. Sverdlova, "Overweight and obesity: Is there a relationship with eating behaviour?," *Ukraïns'kij žurnal Med. biologìï ta Sport*, vol. 6, pp. 84–90, 2021. https://doi.org/10.26693/jmbs06.01.084

[65] H. Zare, H. Rahimi, A. Omidi, F. Nematolahi, and N. Sharifi, "Relationship between emotional eating and nutritional intake in adult women with overweight and obesity: a cross-sectional study," *Nutrition Journal*, vol. 23, no. 1, p. 129, 2024. https://doi.org/10.1186/s12937-024-01030-3

[66] J. J. Annesi, "Early effects of body satisfaction on emotional eating: tailored treatment impacts via psychosocial mediators in women with obesity," *Behavioral Medicine*, vol. 50, no. 2, pp. 91-97, 2024. https://doi.org/10.1080/08964289.2023.2174065

[67] Z. Alibakhshi, A. Alipour, V. Farzad, and M. Aliakbari, "Mediating role of emotional eating, self-esteem and self-control in modeling of obesity in adolescent girls," *Journal of Mazandaran University of Medical Sciences*, vol. 25, no. 134, pp. 193-208, 2016.

[68] A. López-Cepero, C. Frisard, S. C. Lemon, and M. C. Rosal, "Emotional eating mediates the relationship between food insecurity and obesity in Latina women," *Journal of nutrition education and behavior*, vol. 52, no. 11, pp. 995-1000, 2020. https://doi.org/10.1016/j.jneb.2020.08.007

[69] J. Bryan and M. Tiggemann, "The effect of weight-loss dieting on cognitive performance and psychological well-being in overweight women," *Appetite*, vol. 36, no. 2, pp. 147-156, 2001. https://doi.org/10.1006/appe.2000.0389

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194

[70] M. Quattlebaum, D. K. Wilson, A. M. Sweeney, and N. Zarrett, "Moderating effects of parental feeding practices and emotional eating on dietary intake among overweight African American adolescents," *Nutrients*, vol. 13, no. 6, p. 1920, 2021. https://doi.org/10.3390/nu13061920

[71] C. Herrera-Espiñeira, A. María de Pascual y Medina, M. López-Morales, P. D. Jiménez, A. R. Ruiz, and M. Expósito-Ruiz, "Differences in dietary habits, physical exercise, and quality of life between patients with obesity and overweight," *Healthc*, vol. 9, no. 7, 2021. https://doi.org/10.3390/healthcare9070916

[72] P. Schankweiler, D. Raddatz, T. Ellrott, and C. Hauck Cirkel, "Correlates of food addiction and eating behaviours in patients with morbid obesity," *Obesity Facts*, vol. 16, no. 5, pp. 465-474, 2023. https://doi.org/10.1159/000531528

[73] T. Sulistyaningsih, M. J. Loilatu, and A. Roziqin, "Research trends on smart urban governance in Asia: a bibliometric analysis," *Journal of Science and Technology Policy Management*, vol. 15, no. 5, pp. 997-1015, 2024. https://doi.org/10.1108/JSTPM-03-2022-0045

[74] M. J. R. Gouveia, M. C. C. Canavarro, and H. T. Moreira, "Linking mothers' difficulties in emotion regulation to children/adolescents' emotional eating in pediatric obesity: The mediating role of mindful parenting and children/adolescents' depressive symptoms," *Mindfulness*, vol. 10, pp. 877-893, 2019. https://doi.org/10.1007/s12671-018-1055-4

[75] M. H. Pesch and J. C. Lumeng, "Early feeding practices and development of childhood obesity. In Pediatric obesity: Etiology, pathogenesis and treatment." Cham: Springer International Publishing, 2017, pp. 257-270.

[76] X. Leng, Y. Huang, S. Zhao, X. Jiang, P. Shi, and H. Chen, "Altered neural correlates of episodic memory for food and non-food cues in females with overweight/obesity," *Appetite*, vol. 175, p. 106074, 2022. https://doi.org/10.1016/j.appet.2022.106074

[77] J. Smith, X. Q. Ang, E. L. Giles, and G. Traviss-Turner, "Emotional eating interventions for adults living with overweight or obesity: a systematic review and meta-analysis," *International journal of environmental research and public health*, vol. 20, no. 3, p. 2722, 2023. https://doi.org/10.3390/ijerph20032722

[78] G. Øen, B. Kvilhaugsvik, K. Eldal, and A.-G. Halding, "Adolescents' perspectives on everyday life with obesity: a qualitative study," *International Journal of Qualitative Studies on Health and well-being*, vol. 13, no. 1, p. 1479581, 2018. https://doi.org/10.1080/17482631.2018.1479581

[79] F. A. Rahadian, U. Wahyuningsih, and S. F. Simanungkalit, "Factors Associated with the Incidence of Obesity among College Students at Fakultas Ilmu Kesehatan Universitas Pembangunan Nasional" Veteran" Jakarta," *Amerta Nutrition*, vol. 8, 2024. https://doi.org/10.20473/amnt.v8i3SP.2024.24-34

[80] S. Pickett, C. A. Burchenal, L. Haber, K. Batten, and E. Phillips, "Understanding and effectively addressing disparities in obesity: a systematic review of the psychological determinants of emotional eating behaviours among Black women," *Obesity Reviews*, vol. 21, no. 6, p. e13010, 2020. https://doi.org/10.1111/obr.13010

[81] I. Jauregui-Lobera and J. V. Martinez-Quinones, "Neuromodulation in eating disorders and obesity: a promising way of treatment?," *Neuropsychiatric disease and treatment*, pp. 2817-2835, 2018. https://doi.org/10.2147/NDT.S180231

[82] V. Michopoulos, "Stress-induced alterations in estradiol sensitivity increase risk for obesity in women," *Physiology & behavior*, vol. 166, pp. 56-64, 2016. https://doi.org/10.1016/j.physbeh.2016.05.016

[83] N. Rigal, "Stigmatisation et cercle vicieux de la prise de poids: quelles réalités chez l'enfant et l'adolescent?," *Neuropsychiatrie de l'Enfance et de l'Adolescence*, vol. 71, no. 2, pp. 68-72, 2023. https://doi.org/10.1016/j.neurenf.2022.12.004

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 6: 1559-1576, 2025
DOI: 10.55214/25768484.v9i6.8194