

## Psychosocial and cognitive risk factors for orthorexia nervosa: an integrative review of recent literature

*Fatores de risco psicossociais e cognitivos para ortorexia nervosa:  
uma revisão integrativa da literatura recente*

*Factores de riesgo psicosociales y cognitivos para la ortorexia nerviosa:  
una revisión integradora de la literatura reciente*

1 Vitória Moreli Guerrazzi  [ORCID](#) – [Lattes](#)

2 Isadora Paiva Abbondanza - [ORCID](#) - [Lattes](#)

3 Leticia Bragalia Passarella - [ORCID](#) – [Lattes](#)

4 Emily Godoi Pereira – [ORCID](#) – [Lattes](#)

5 Thiago Bonafé – [ORCID](#) – [Lattes](#)

6 Maira Pieri Ribeiro – [ORCID](#) - [Lattes](#)

**Affiliation of authors:** **1, 2, 3, 4** [Graduandos, Medicina, Pontifícia Universidade Católica de Campinas, PUCC, Campinas, SP, Brasil]; **5** [Graduando, Medicina, Centro Universitário de Várzea Grande, UNIVAG, Várzea Grande, MT, Brasil]; **6** [Pediatra, Hospital PUCC, Pontifícia Universidade Católica de Campinas, PUCC, Campinas, SP, Brasil].

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**Authors contributions according to the [Taxonomia CRediT](#):**

Guerrazzi VM, Abbondanza IP [1,2,5,6,13,14], Passarella LB [2,6,13,14], Pereira EG [2,6,11,13,14], Bonafé T [7,10], Ribeiro MP [13,14].

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## **ABSTRACT:**

**Introduction:** Orthorexia nervosa (ON) is a dysfunctional eating behavior characterized by an obsession with healthy eating. This disorder is influenced by psychological, social, and behavioral factors, with social media being a central factor. Digital content that promotes restrictive diets and fitness practices has contributed significantly to the dissemination of rigid and potentially harmful eating patterns, especially among adolescents and women. **Objective:** This review aimed to identify the main psychosocial and cognitive predisposing factors associated with ON, with an emphasis on the role of social media and other underlying mechanisms. **Method:** This is an integrative literature review, conducted according to the [PRISMA](https://doi.org/10.25118/2763-9037.2025.v15.1465) guidelines. The review protocol was registered with [PROSPERO CRD42024594857](https://doi.org/10.25118/2763-9037.2025.v15.1465). Fourteen recently published studies were analyzed, totaling a sample of 12,628 participants. Inclusion criteria involved studies that addressed psychological, social, or behavioral risk factors related to ON. **Results:** Social media was strongly associated with ON, especially those that promote restrictive diets and fitness content. Dietary patterns such as vegan or gluten-free diets, combined with compulsive exercise, contribute to the maintenance of a pathological cycle. Psychological factors such as insecure attachment styles, low self-esteem, and difficulties in emotional regulation increase the risk. Mindfulness showed varied effects, while self-compassion stood out as a possible protective factor. **Conclusion:** Coping with ON requires a multifaceted approach, with clearer diagnostic criteria, public health actions to reduce the impact of social networks, and interventions focused on underlying psychological factors. Future research should prioritize early identification and prevention strategies

**Keywords:** orthorexia nervosa, eating disorder, social media, mental health, restrictive diets

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## **RESUMO:**

**Introdução:** A ortorexia nervosa (ON) é um comportamento alimentar disfuncional caracterizado por uma obsessão por alimentação saudável. Esse transtorno é influenciado por fatores psicológicos, sociais e

comportamentais, sendo as redes sociais um fator central. O conteúdo digital que exalta dietas restritivas e práticas fitness tem contribuído significativamente para a disseminação de padrões alimentares rígidos e potencialmente prejudiciais, especialmente entre adolescentes e mulheres.

**Objetivo:** Esta revisão teve como objetivo identificar os principais fatores predisponentes psicossociais e cognitivos associados à ON, com ênfase no papel das redes sociais e outros mecanismos subjacentes. **Método:** Trata-se de uma revisão integrativa da literatura, conduzida segundo as diretrizes [PRISMA](#). O protocolo de revisão foi registrado no [PROSPERO CRD42024594857](#). Foram analisados 14 estudos publicados recentemente, totalizando uma amostra de 12.628 participantes. Os critérios de inclusão envolveram estudos que abordassem fatores de risco psicológicos, sociais ou comportamentais relacionados à ON. **Resultados:** As redes sociais mostraram-se fortemente associadas à ON, sobretudo aquelas que promovem dietas restritivas e conteúdo fitness. Padrões alimentares como dietas veganas ou sem glúten, aliados à prática compulsiva de exercícios físicos, contribuem para a manutenção de um ciclo patológico. Fatores psicológicos como estilos de apego inseguros, baixa autoestima e dificuldades na regulação emocional aumentam o risco. A atenção plena apresentou efeitos variados, enquanto a autocompaixão destacou-se como possível fator protetor. **Conclusão:** O enfrentamento da ON exige uma abordagem multifacetada, com critérios diagnósticos mais claros, ações de saúde pública para reduzir o impacto das redes sociais e intervenções focadas nos fatores psicológicos subjacentes. Pesquisas futuras devem priorizar a identificação precoce e estratégias de prevenção.

**Palavras-chave:** ortorexia nervosa, transtorno alimentar, redes sociais, saúde mental, dietas restritivas

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## RESUMEN:

**Introducción:** La ortorexia nerviosa (ON) es un comportamiento alimentario disfuncional caracterizado por una obsesión con la alimentación saludable. Este trastorno está influenciado por factores psicológicos, sociales y conductuales, siendo las redes sociales un factor clave. El contenido digital que promueve dietas restrictivas y prácticas fitness ha contribuido significativamente a la propagación de patrones alimentarios rígidos y potencialmente perjudiciales, especialmente entre adolescentes y mujeres. **Objetivo:** Esta revisión tuvo como objetivo identificar los principales factores predisponentes psicossociales y cognitivos asociados a la ON, con énfasis en el papel de las redes sociales y otros mecanismos subyacentes. **Método:** Se trata de una revisión integradora de la literatura,

realizada conforme a las directrices [PRISMA](#). El protocolo de revisión fue registrado en [PROSPERO CRD42024594857](#). Se analizaron 14 estudios publicados recientemente, con un total de 12.628 participantes. Los criterios de inclusión abarcaron estudios que abordaran factores de riesgo psicológicos, sociales o conductuales relacionados con la ON. **Resultados:** Las redes sociales se asociaron fuertemente con la ON, especialmente aquellas que promueven dietas restrictivas y contenido fitness. Patrones alimentarios como dietas veganas o sin gluten, junto con la práctica compulsiva de ejercicio físico, contribuyen a la perpetuación de un ciclo patológico. Factores psicológicos como estilos de apego inseguros, baja autoestima y dificultades en la regulación emocional aumentan el riesgo. El *mindfulness* mostró efectos mixtos, mientras que la autocompasión surgió como posible factor protector. **Conclusión:** El abordaje de la ON requiere un enfoque multifacético, con criterios diagnósticos más claros, estrategias de salud pública para reducir el impacto de las redes sociales e intervenciones centradas en factores psicológicos subyacentes. Futuros estudios deben priorizar la identificación precoz y estrategias preventivas.

**Palabras clave:** ortorexia nerviosa, trastorno alimentario, redes sociales, salud mental, dietas restrictivas

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## Introduction

The growing pursuit of a healthy lifestyle, driven by the adoption of strict diets and exercise routines, reflects a concern for preventing chronic non-communicable diseases (NCDs) like hypertension and diabetes. However, this pursuit can paradoxically trigger eating disorders such as Orthorexia nervosa (ON). ON is a syndrome characterized by an obsessive fixation on the purity and quality of food, in which a healthy concern becomes excessively restrictive and harmful [1]. Rather than a single disordered behavior, ON encompasses cognitive, emotional, and behavioral dimensions that impair social and psychological functioning.

Studies show that a combination of social, psychological, and cultural factors significantly contributes to the development of ON. Exposure to social media that promotes ideals of perfect bodies and extreme eating habits is one such factor, leading to internalization of unattainable standards and constant comparisons [2]. These digital spaces exert considerable pressure, encouraging rigid eating patterns and obsessive behaviors related to diet and health [3]. Individuals who consume content promoting “clean eating” or extreme dietary control are more likely to

develop orthorexic tendencies, especially when influenced by visual glorification of idealized bodies and wellness perfectionism.

Psychological factors, particularly perfectionism, also play a crucial role. The compulsion to meet rigid healthy eating standards, often accompanied by compulsive exercise, reflects an attempt to control anxiety and preserve self-image [4]. ON shares features with other disorders, including obsessive-compulsive disorder and anorexia nervosa, especially in relation to cognitive rigidity, intolerance to uncertainty, and high levels of self-criticism. Self-compassion, conversely, appears to be a protective factor, as its absence is linked to a broad range of psychopathologies, including eating disorders. Additionally, insecure attachment patterns—commonly observed in other mental health conditions—have also been associated with orthorexic behaviors.

Given the increasing academic interest in Orthorexia Nervosa and the growing recognition of its multifactorial origins, it is essential to examine how recent developments in research have contributed to understanding its risk factors. The years 2023 and 2024 were selected to capture the most current perspectives, particularly in light of post-pandemic shifts in digital behavior, public health messaging, and lifestyle norms, all of which may influence the manifestation of orthorexic traits. This temporal focus allows for an updated synthesis that reflects emerging trends, including novel conceptualizations, assessment tools, and cultural dynamics. Therefore, the aim of this review is to identify and analyze the primary psychological and sociocultural factors associated with the development of ON in studies published between 2023 and 2024, offering an integrative view that may inform future research and targeted prevention strategies.

## Method

This integrative review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses ([PRISMA](#)) guidelines, where applicable, and followed the five-stage framework proposed by Whitemore and Knafl (2005): **1.** problem identification; **2.** literature search; **3.** data evaluation; **4.** data analysis and **5.** presentation. The review protocol was registered with [PROSPERO CRD42024594857](#).

### *Search Strategy*

A systematic search was conducted in the PubMed, EMBASE, SciELO, and Scopus databases for studies published from January 2023 to March 2024. The following search terms and Boolean combinations were used: ("orthorexia" OR "orthorexia nervosa") AND ("social media" OR



"psychological factors" OR "compulsive exercise"). Filters for full-text availability, English and Portuguese languages, and publication year were applied. The decision to include only recent studies aimed to capture the most up-to-date evidence, reflecting recent developments in the literature, especially following behavioral changes observed in the post-pandemic context.

### *Eligibility criteria*

Studies were included if they: **1.** Focused on Orthorexia Nervosa as the central theme; **2.** Addressed the relationship between predisposing factors and the development of Orthorexia Nervosa; **3.** Were available as full-text articles for free; **4.** Were published between 2023 and 2024; **5.** Were cohort studies.

Studies were excluded if they: **1.** Were case reports or literature reviews; **2.** Were duplicates; **3.** Did not focus on Orthorexia Nervosa as the central theme; **4.** Were observational studies.

### *Screening and data extraction*

All relevant studies identified through electronic database searches were imported into a spreadsheet, and duplicates were removed. The study selection process was carried out in three phases. Two independent reviewers (IA & VG) screened the article titles, followed by the abstracts, and then the full texts, based on the inclusion criteria. Studies meeting the eligibility criteria were included in the review. Disagreements were resolved through consensus or by consulting a third author (LP). One reviewer (EG) extracted the following information: article title, publication date, author names, study characteristics, participant details, and primary and secondary outcomes. The extracted data were verified by the remaining authors.

### *Study Selection Summary*

A total of 284 articles were initially identified. After removing 140 duplicates, 144 articles remained for screening. Following title and abstract review, 19 articles were assessed in full, of which 13 met the eligibility criteria and were included in the final review. These studies involved 8,179 participants aged 15 years and older. Among them, five studies examined the relationship between ON and social media, two focused on compulsive exercise, one investigated self-compassion and mindfulness, and five explored psychological factors and restrictive diets. The summary of the screening process is depicted in [Figure 1](#).

### *Quality assessment and risk of bias*

The quality of the included studies was independently assessed by two authors (IPA & VMG) using the Newcastle-Ottawa Scale (NOS) adapted for observational studies. The potential risk of bias in each study was also evaluated by the same authors using the Tool to Assess Risk of Bias in Cohort Studies. Any discrepancies between the reviewers were resolved by consulting a third reviewer (LBP).

### *Data analysis*

The data analysis stage involved synthesizing the findings of the included studies following a narrative synthesis approach, as described by [5]. Studies were grouped according to the thematic focus (e.g., social media, exercise, psychological traits) and numerically classified based on the type of factor investigated. Similarities and differences across the studies were analyzed in light of the guiding research question, allowing the identification of relevant patterns, recurring themes, and gaps in the current literature on Orthorexia Nervosa.

## **Results**

### *Study characteristics*

Key study characteristics are presented in [Frame 1](#). All studies were published between 2023 and 2024. Most included studies had quantitative designs: cross-sectional study (n = 9); cross-sectional descriptive study (n = 2); cross-sectional cohort study (n = 1); cross-sectional and retrospective study (n = 1); full report (n = 1). Two were qualitative studies using face-to-face interviews, ten were studies using Form or online questionnaire, and two were studies using other ways of searching online.

The included studies reported a combined total of 12,628 participants with various issues related to ON. Study sample sizes ranged from 96 to 4405 participants. Most studies were conducted with young adults and adults, within an age range of 18 to 65 years, while one study specifically focused on adolescents aged 15 to 18 years. All of the studies had more women in the sample. The studies used different data collection methods.

### *What factors are associated with ON?*

In total, fourteen papers (n=14) reported factors in the development of ON. The details of these factors: social media, restrictive eating patterns and self-compassion, mindfulness, compulsive exercises, and attachment theory are provided in [Frame 2](#).

### *Social media*

The analysis of the selected articles (n=5) indicates a significant association between the use of social networks and higher reported ON symptoms. One study [2] found that the risk of ON was 2.4 times higher in individuals who followed pages promoting healthy eating and 1.68 times higher in those who followed pages focused on physical exercise. The study highlighted that adolescents and women are particularly at risk, largely due to the pressure of social networks and the propagation of the thin ideal. Additionally, individuals prone to ON spent an average of 161.1 minutes per day on social networks, significantly more than those without a tendency toward ON. Another study [3] revealed that ON can also be influenced by exposure to specific content on social networks, such as profiles promoting restrictive diets or "pure" and "natural" foods. This constant exposure may be associated with stronger obsessive and compulsive food-related tendencies and more severe ON symptoms. The study found that individuals who did not follow entertainment and restaurant pages reported higher ON tendencies, suggesting a potential association between limited content exposure and ON [1].

An additional study [4] indicated that using social media to consume and share content on healthy eating is most prevalent among individuals with both ON and eating disorders. Also, a study [6] found that occurrence of ON was greater among obese individuals with higher social media addiction scores. Engaging with social media can affect body image and dietary habits. Educating obese individuals on these influences can help protect against trendy social media diets and potential eating disorders.

A further study [7] found that social media content, often showcasing restrictive diets and idealized body images, encourages constant comparisons between bodies and lifestyles. This comparison can intensify the obsession with adhering to a strict diet in an attempt to attain the same ideal, leading to the development or exacerbation of pathological eating behaviors [3]. Social media, by facilitating access to these ideals and information, provides fertile ground for the growth of ON, where the pursuit of a healthy lifestyle evolves into an unhealthy obsession.

### *Restrictive eating patterns and self-compassion*

A significant link between ON and restrictive eating patterns has been demonstrated (n=5), with self-compassion emerging as a potential moderating factor for these behaviors. [8] found that dieting was associated with higher ON symptoms, and that food-related worries and



preoccupations, related to restrictive eating habits, appeared to mediate a significant portion of the variance in ON symptoms.

One study [9] revealed that the rigid dietary rules and pursuit of a perfect diet in ON may be attributed to perfectionist tendencies, potentially increasing the risk of eating disorder symptoms.

Other study [10] found that ON is closely associated with diets that excessively focus on food quality and rigid dietary restrictions, such as vegan and gluten-free diets. This orthorexic tendency is more pronounced in women and individuals with a history of disordered eating, highlighting a strong connection between ON and overly controlled eating patterns. In a sample of 251 Canadian adults (85.7% women), two profiles of orthorexic behaviors were identified: 68.9% exhibited low levels of ON and healthy orthorexia, while 31.1% showed moderate levels of both. Participants with a moderate profile demonstrated more disordered eating behaviors, including a greater likelihood of practicing vegetarianism and engaging in frequent physical activity.

Another study [11] emphasized that ON significantly impacts individuals' quality of life. According to another article [12] ON negatively affects the physical health of the person as well as their interpersonal relationships, stress management, and mental health. However, self-compassion-based interventions appear to mitigate these effects. Self-compassion, which involves treating oneself with kindness and understanding in the face of flaws, helps reduce the eating perfectionism typical of ON. The study suggested that individuals with greater self-compassion tend to have fewer orthorexic tendencies, as they are less prone to self-judgment. Furthermore, it was identified a complex relationship between ON and mindful eating, where ON correlated positively with emotional eating, challenging previous expectations [11]. This finding suggests that while ON is often linked to rigid eating control, it can also coexist with elements of mindful eating, complicating the understanding of ON in relation to eating behaviors.

Another study [13], proposed that cultivating self-compassion could be an effective strategy for reducing the rigidity of eating patterns associated with ON and improving quality of life.

### *Mindfulness*

The role of mindfulness in mindful eating reveals a complex and sometimes contradictory relationship with ON (n=2). Studies present a complex

relationship between mindfulness and ON. It was reported negative correlations between mindful eating subscales and ON tendencies, suggesting a potential inverse association [13]. However, it was found a positive correlation between ON and certain dimensions of mindful eating, such as emotional eating [11].

One study [13] found negative correlations between ON and mindful eating subscales, such as mindful eating, hunger, and satiety. These results suggest that individuals with higher levels of mindfulness tend to exhibit lower orthorexic tendencies, implying that mindful eating practices may protect against ON. By promoting a more intuitive and less rigid relationship with food, mindful eating may reduce orthorexic behaviors. As such, interventions aimed at increasing mindful eating could be effective in mitigating the negative impacts of ON on individuals' quality of life. However, another study [11] offers a different perspective, challenging the expected relationship between mindfulness and ON. This study identified a positive correlation between ON and mindful eating, particularly in dimensions such as emotional eating and attention to eating. These findings suggest that, in some cases, mindful eating may coexist with orthorexic behaviors, and individuals with an obsessive relationship with food may use mindful eating dysfunctionally. This complexity highlights the need for a more nuanced understanding of how mindful eating is linked to ON, as the practice may serve both as a tool for emotional regulation and a potential contributor to the obsession with healthy eating.

### *Compulsive exercises*

Studies [10, 14 - 15] have consistently reported an association between frequent participation in physical activity and higher ON tendencies. A study found that individuals with more regular physical activity were more likely to exhibit moderate orthorexic eating behaviors [10].

One study [10] found that individuals who engage in physical activity more regularly are significantly more likely to exhibit moderate orthorexic eating behaviors compared to those with lower levels of ON. While physical exercise is generally considered healthy, excessive participation has been associated with health issues and dysfunction, and this may co-occur with higher ON tendencies. Both excessive exercise and ON share a rigid, extreme nature, which, when combined, can result in physical complications, injuries, and emotional distress.

Another study [14] explored the hypothesis that an obsession with health underlies both ON and compulsive exercise, suggesting that these

behaviors are interconnected. This could create a mutually reinforcing cycle, where ON intensifies compulsive exercise, which in turn worsens ON.

Another study [15] found that nurses who engaged in regular physical activity, monitored their caloric intake, and followed a structured diet showed significantly elevated levels of orthorexic tendencies. An organized approach to eating often aligns with behaviors associated with ON, which involves an intense focus on healthy eating. It's suggested that individuals who prioritize exercise, carefully consider the types and amounts of foods they consume, and plan meals in detail may exhibit a stronger inclination toward ON due to their heightened dietary attentiveness. Additionally, emotional dysregulation has been found to be positively associated with disordered eating, which in turn is linked to both ON and compulsive exercise.

A further study [16] highlighted that the combination of physical exercise and an overly regulated diet, often motivated by the pursuit of a healthier lifestyle and an idealized body image, can, in pathological cases, develop into exercise addiction and lead to injuries. In these individuals, the motivation for exercise seems strongly influenced by compulsive behaviors and feelings of guilt.

#### *Attachment theory*

Attachment theory explores how relationships between infants and their parents influence emotional development, concepts of love, social interactions, and adult bonding. Four attachment patterns are commonly identified: **1.** secure attachment, **2.** avoidant and dismissive, **3.** anxious and fearful, and **4.** preoccupied attachment. Insecure attachment styles have been linked to eating disorders, with patients showing more avoidant and anxious behaviors and less security compared to those without such disorders.

One study [14] found that individuals with eating disorders often exhibit avoidant and anxious attachment, being less secure than those without eating disorders. However, research on the connection between attachment styles and ON remains limited, particularly among adolescents. The study also highlighted that insecure attachment, especially in females, is a significant risk factor for ON. Furthermore, emotion regulation and alexithymia (difficulty identifying and expressing emotions) were identified as key mediators in this relationship, suggesting that interventions addressing these areas could be vital for preventing and treating ON.

Another study [16] demonstrated that self-esteem plays a mediating role in this relationship. Secure attachment styles are associated with lower ON tendencies, while low self-esteem increases the risk of developing the disorder. A recent analysis of Lebanese adolescents revealed that insecure attachment styles, such as anxious and avoidant attachment, are strongly linked to higher ON tendencies. These adolescents also exhibited higher levels of compulsive exercise, poor emotion regulation, concerns about weight and body shape, body dissatisfaction, and controlling parenting practices.

### *BMI*

One study [17] examines the relationship between Body Mass Index (BMI) and ON, using BMI as an indicator of difficulties in maintaining appropriate body weight, which may drive individuals to adopt restrictive diets. Research on this topic has shown mixed results: some studies report a significant association between both overweight and underweight conditions and ON, while others do not. This study highlighted the association of ON with BMI categories, specifically distinguishing between normal and non-normal BMI (underweight, overweight, or obese), finding a significant relationship at certain BMI thresholds. Interestingly, respondents with normal BMI had lower mean scores on the ORTO-15 test compared to those with non-normal BMI. This suggests that BMI may be associated with ON tendencies, potentially serving as a factor to consider in identifying individuals who report higher levels of ON.

Another study [6] found that individuals categorized as obese had higher scores on the Social Media Addiction Scale for Adults (SMBÖ-SF) than those classified as overweight, according to their Body Mass Index (BMI). This could imply that obesity is associated with a greater tendency to engage with social media, possibly influencing behaviors related to body image and health.

## **Discussion**

The findings of this integrative review underscore the multifactorial nature of Orthorexia Nervosa (ON), revealing how psychological and social elements, such as social media use, restrictive eating patterns, mindfulness, compulsive exercise, and attachment styles, interact in shaping the development and maintenance of this condition. Rather than operating in isolation, these factors often reinforce one another, forming a complex web of behaviors and cognitions centered on control, perfectionism, and identity.

Social media platforms have proven to be a significant risk factor for ON, with exposure to idealized body images and restrictive dietary behaviors fostering a heightened focus on food quality and control. Studies show that individuals who engage with content promoting healthy eating, exercise, and idealized body images are more likely to develop ON symptoms. This is particularly concerning for adolescents and women, who seem to be more vulnerable to the pressures exerted by social media. The constant exposure to unattainable ideals, reinforced by comparisons with others, appears to intensify obsessive behaviors related to food and exercise, ultimately facilitating the development of ON. Future research could further explore how to mitigate these harmful effects, perhaps by promoting more diverse content and raising awareness of the mental health risks associated with these platforms.

Restrictive eating patterns, such as veganism and gluten-free diets, are often associated with ON, where rigid eating behaviors exacerbate the disorder's symptoms. Self-compassion has emerged as a potential moderating factor, with studies suggesting that individuals with higher levels of self-compassion are less prone to the perfectionistic tendencies that fuel ON. By fostering a more compassionate relationship with food and self, interventions aimed at increasing self-compassion may help reduce the rigidity of eating patterns and improve overall well-being. However, this relationship is nuanced, self-compassion may be moderated by emotional regulation and mindfulness, highlighting the need for further research into how these psychological constructs interact in different populations.

The role of mindfulness in ON presents a paradox. On one hand, mindful eating may promote a healthier, more intuitive relationship with food by reducing automatic, emotionally driven eating. On the other hand, individuals with orthorexic tendencies may co-opt mindfulness practices in rigid or controlling ways, using them to further entrench food-related rules or suppress distress. This paradox calls for a more nuanced understanding of how mindfulness can both alleviate and contribute to ON symptoms. Effective interventions should simultaneously target eating behaviors, exercise patterns, and emotional regulation, recognizing the interconnected nature of these domains.

Compulsive exercise is frequently associated with ON, with studies showing that excessive physical activity can worsen eating behaviors and emotional distress. This finding aligns with the concept of a mutually reinforcing cycle



between ON and compulsive exercise, where each behavior fuels the other, creating a pathological loop that can lead to physical and emotional harm. Addressing this cycle through interventions that target both dietary habits and exercise behaviors could be crucial for individuals at risk of ON. Given that emotional dysregulation is also a key feature of this cycle, it is important to incorporate strategies aimed at improving emotional regulation in treatment plans.

Attachment theory provides a deeper emotional framework for understanding ON. Insecure attachment styles, particularly anxious and avoidant, are consistently associated with higher orthorexic tendencies. Individuals with these attachment profiles often experience difficulties with emotion regulation and self-worth, seeking external control (such as food rules) to manage internal chaos. These dynamics may also explain why such individuals are especially sensitive to external influences like social media and dietary ideologies. Interventions aimed at enhancing attachment security, such as emotion-focused therapy or compassion-based approaches, may improve emotional stability and reduce reliance on rigid eating behaviors for psychological comfort.

#### *Implications for Research and Practice*

The findings of this review suggest several important implications for both research and clinical practice. First, future research should focus on developing clear diagnostic criteria for ON, as the current lack of formal recognition in diagnostic manuals like the [DSM-5](#) limits the ability to identify and treat individuals at risk. This could involve exploring the psychological and social factors that contribute to the disorder in greater depth, particularly the influence of social media and restrictive eating behaviors. Investigating how self-compassion, mindfulness, and emotional regulation influence ON could provide valuable insights for developing more effective prevention and intervention strategies.

In clinical practice, there is a need for multidisciplinary approaches to address the complex nature of ON. Interventions should incorporate strategies to combat the negative impacts of social media, such as promoting diverse and realistic portrayals of body image and eating behaviors. Furthermore, fostering self-compassion and emotional regulation, particularly in vulnerable populations like adolescents, could reduce the risk of developing ON. Professionals should also be aware of the intertwined relationship between compulsive exercise and restrictive eating, as addressing one without the other may not be sufficient for

effective treatment. Finally, integrating attachment-based therapies into ON treatment may offer a promising approach for enhancing emotional regulation and improving self-esteem, particularly in individuals with insecure attachment styles.

By advancing our understanding of the factors that contribute to ON and implementing targeted interventions, both research and practice can work together to mitigate the prevalence and impact of this disorder on individuals' mental and physical health.

### *Strengths and limitations*

This review has several strengths, including its comprehensive analysis of psychological and social contributors to ON and its integration of emerging evidence from multiple disciplines. However, several limitations must be acknowledged. First, all included studies relied on self-report measures, introducing potential recall and response biases. Second, heterogeneity in outcome definitions and assessment tools limited comparability across studies. Third, many studies focused on specific populations (e.g., adolescents, women), which constrains generalizability. Fourth, few studies accounted for cultural context, despite the likelihood that ON manifests differently across cultural settings and dietary norms.

Despite these limitations, this review provides critical insights into the role of social media in developing and exacerbating ON. The influence of platforms promoting dietary extremism and the ideal of physical perfection should not be overlooked in discussions on disordered eating behaviors. This provides a strong foundation for targeted, intervention-based recommendations for reducing ON risk. Further research is also needed on the psychological mechanisms linking social media use to ON, as well as potential preventive interventions targeting at-risk groups like adolescents and frequent social media users.

### **Conclusion**

In conclusion, ON is a complex disorder influenced by psychological, social, and behavioral factors. Elements such as social media, restrictive eating patterns, mindfulness, compulsive exercise, and attachment styles are interconnected in its development and worsening. The influence of social media highlights the need for public health actions focused on mental health. Future research should explore the underlying psychological mechanisms and develop interventions to reduce negative impacts, helping lower the prevalence of ON and improve the quality of life of those affected.

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## Referências

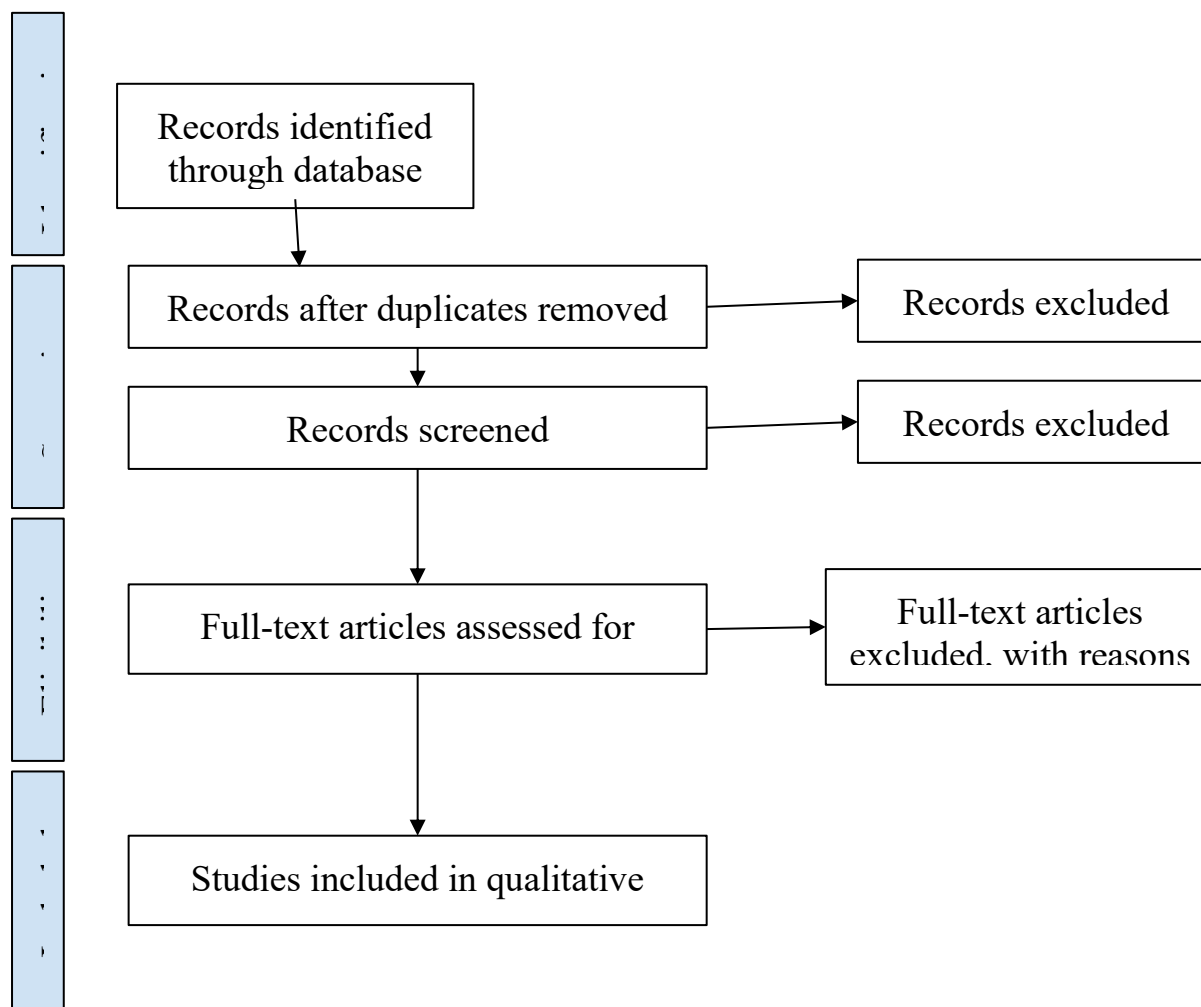
- 1. Bratman S, Knight D. Health food junkies: Overcoming the obsession with healthful eating. New York: Broadway Books; 2001.
- 2. Asil E, Yilmaz MV, Ayyıldız F, Yalçın T. The effect of social media use on orthorexia nervosa: a sample from Turkey. *Nutr Hosp.* 2023 Apr 20;40(2):384-90 <https://doi.org/10.20960/nh.04217>
- 3. Scheiber R, Diehl S, Karmasin M. Socio-cultural power of social media on orthorexia nervosa: An empirical investigation on the mediating role of thin-ideal and muscular internalization, appearance comparison, and body dissatisfaction. *Appetite.* 2023;185:106522. <https://doi.org/10.1016/j.appet.2023.106522> PMID:36893917
- 4. Levin RL, Mills JS, McComb SE, Rawana JS. Examining orthorexia nervosa: Using latent profile analysis to explore potential diagnostic classification and subtypes in a non-clinical sample. *Appetite.* 2023;181:106398. <https://doi.org/10.1016/j.appet.2022.106398> PMID:36455786
- 5. Popay J, Roberts H, Sowden A, Petticrew M, Arai L, Rodgers M, Britten N. Guidance on the conduct of narrative synthesis in systematic Reviews. A Product from the ESRC Methods Programme. Version 1. Lancaster: Lancaster University; 2006. <https://doi.org/10.13140/2.1.1018.4643>
- 6. Sener BS, Özkaya H. Investigation of the relationship between social media addiction and orthorexia nervosa in adult individuals who applied to obesity polyclinic. *Addicta.* 2023;10(2):135-41. <https://doi.org/10.5152/ADDICTA.2023.23042>
- 7. Sanzari CM, Hormes JM. U.S. health professionals' perspectives on orthorexia nervosa: clinical utility, measurement and diagnosis, and perceived influence of sociocultural factors. *Eat Weight Disord.*

2023 Mar 22;28(1):31. <https://doi.org/10.1007/s40519-023-01551-6> PMid:36947321 PMCID:PMC10033613

- 8. Rossi AA, Mannarini S, Donini LM, Castelnovo G, Simpson S, Pietrabissa G. Dieting, obsessive-compulsive thoughts, and orthorexia nervosa: Assessing the mediating role of worries about food through a structural equation model approach. *Appetite*. 2024;193:107164. <https://doi.org/10.1016/j.appet.2023.107164> PMid:38103790
- 9. Mahfoud D, Pardini S, Mróz M, Hallit S, Obeid S, Akel M, Novara C, Brytek-Matera A. Profiling orthorexia nervosa in young adults: the role of obsessive behaviour, perfectionism, and self-esteem. *J Eat Disord*. 2023 Oct 19;11(1):188. <https://doi.org/10.1186/s40337-023-00915-8> PMid:37858264 PMCID:PMC10588191
- 10. Boutin C, Maïano C, Aimé A. Relation between orthorexia nervosa and healthy orthorexia: A latent profile analysis. *Appetite*. 2024 Mar 1;194:107165. <https://doi.org/10.1016/j.appet.2023.107165> PMid:38103792
- 11. Demirer B, Yardımcı H. Is mindful eating higher in individuals with orthorexia nervosa?: a cross-sectional study. *J Public Health*. 2023;32:455-60. <https://doi.org/10.1007/s10389-023-01829-0>
- 12. Dolapoglu N, Ozcan D, Tulaci RG. Is Orthorexia Nervosa a Non-specific Eating Disorder or a Disease in the Spectrum of Obsessive-Compulsive Disorder?. *Cureus*. 2023;15(5):e38451. <https://doi.org/10.7759/cureus.38451> PMid:37273340 PMCID:PMC10234576
- 13. Kalika E, Hussain M, Egan H, Mantzios M. Exploring the moderating role of mindfulness, mindful eating, and self-compassion on the relationship between eating-disordered quality of life and orthorexia nervosa. *Eat Weight Disord*. 2023 Feb 20;28(1):18 <https://doi.org/10.1007/s40519-023-01542-7> PMid:36808014 PMCID:PMC9941235
- 14. Zohar AH, Zamir M, Lev-Ari L, Bachner-Melman R. Too healthy for their own good: orthorexia nervosa and compulsive exercise in the community. *Eat Weight Disord*. 2023 Jun 27;28(1):55 <https://doi.org/10.1007/s40519-023-01575-y> PMid:37368169 PMCID:PMC10300176

-  15. Atsizata M, Cangöl Sögüt S. The relationship between orthorexia nervosa and cyberchondria levels in nurses: A cross-sectional study. Arch Psychiatr Nurs. 2024 Feb;48:30-5.  
<https://doi.org/10.1016/j.apnu.2024.01.008> PMid:38453279
-  16. Azzi R, Mhanna M, Hallit S, Obeid S, Soufia M. Attachment styles and orthorexia nervosa among Lebanese adolescents: The indirect effect of self-esteem. Arch Pediatr. 2023 Jul;30(5):314-20.  
<https://doi.org/10.1016/j.arcped.2023.04.003> PMid:37321950
-  17. Majoch M, Homoncik J, Mikulec A, Wegrzyn I. The prevalence and risk factors of Orthorexia Nervosa Disorder using the ORTO-15 test. Żywność. 2023;30(3):47-67.  
<https://doi.org/10.15193/zntj/2023/136/455>





**Figure 1.** [PRISMA](#) 2020 flowchart of the study selection process

**Source:** The authors

**Notes:** This [PRISMA](#) flowchart illustrates the study selection process, detailing each phase from identification to inclusion. It shows the total number of records identified, screened, assessed for eligibility, and the final number of studies included in the qualitative synthesis. Reasons for exclusions at various stages are documented for transparency.



**Frame 1.** Characteristics of included studies according to study design (n = 14)

Authors (year)	Location	Aim	Study Design	Sample Size	Population used	Intervention	Outcome measured tool/data collection	Main findings
Asil (2023)	Turkey	Effect of social media use on orthorexia nervosa.	Cross-sectional study	2526 participants	Internet users between the ages of 19 and 65 living in Turkey	Questionnaire form, announced on various social media platforms (Instagram, Facebook, WhatsApp, Twitter).	Questionnaire form, announced on various social media platforms (Instagram, Facebook, WhatsApp, Twitter).	This study indicates that increasing social media usage, especially web pages that include health and nutrition recommendations, may boost the tendency to ON.
Azzi (2023)	Lebanon	Effect of self-esteem and attachment styles on orthorexia nervosa.	Cross-sectional study	555 participants	Adolescents aged 15 to 18 residing in Lebanon	Questionnaire form with Düsseldorf Orthorexia Scale.	Linear regression with DOS score and Macro PROCESS.	Higher fearful and preoccupied attachment styles, female gender, and more physical activity were significantly associated with more ON tendencies.
Demirer (2024)	Turkey	Investigate the relationship	Cross-sectional descriptive	197 participants	105 females and 92 males, Total sample	Face-to-face interviews using a	SPSS version 23, with a significance level of 0.05 and a	Mindful eating of individuals with ON is

		ip between mindful eating and orthorexi a nervosa (ON) among adults and contribut e to establishi ng ON diagnosti c criteria.	e study		Mage = 30.60 years, SD = 6.80.	questionnaire questioning demographic characteristics. Five results of ve scales along with demographic data were analyzed.	95% confidence interval. The normality of the data was tested using the Kolmogorov- Smirnov test. Descriptive statistics were used, and the Student's t-test compared quantitative data between two groups. Spearman's correlation coefficient was calculated to assess relationships between continuous variables and the ORTO-15 score. Multiple linear regression was applied to identify predictors of the ORTO-15 score.	higher than those who do not have ON, and this is important in determining the diagnostic criteria of ON.
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Dolapoglu (2023)	Turkey	Analyzing if ON is a non-specific eating disorder or a disease in the spectrum of obsessive-compulsive disorder.	cross-sectional and retrospective study.	142 participants	Students between the 1st and 6th grades of medical school of the Balikesir University Medical Faculty, ages ranging from 18 to 31 years old.	Questionnaire for University students	Univariate analysis	Orthorexia was affected by the total scores of the eating disorder scale, body image scale, and awareness scale in univariate analysis. When all variables were re-evaluated in the multivariate analysis, it was seen that the total scores of the body image scale and conscious awareness scale affected the diagnosis of orthorexia.
Kalika (2023)	United Kingdom	The role of mindfulne	cross-sectional descriptiv	288 participants	288 female participants who were all	Questionnaire, advertised on several social	Self-reported scales to assess key psychological	Individuals with orthorexic behaviors

		ss, mindful eating, and self-compassion on the relationship between eating-disordered quality of life and orthorexia nervosa	e study.		adults (18 years or over; $M = 24.79$ , $SD = 7.08$ ) with a mean Body Mass Index (BMI) of $M = 24.26$ kg/m <sup>2</sup> ( $SD = 6.45$ ). A total of 69.1% of participants identified as White, 19.8% as Asian, 3.5% as Black, 2.8% as Mixed and 4.9% as Other, Furthermore, the type of diet was also collected, the sample consisted of 75.4% of Omnivores, 22.2% of	media platforms and forums such as Facebook, Instagram, Twitter, LinkedIn and MiniMins	constructs. The following tools were used: ONI, FFQM, MEBS, SCS	display high levels of distress, self-judgment, and self-punishment when dietary violations occur. However, individuals with high orthorexic tendencies displayed low levels of acting with awareness. Such a relationship with acting with awareness goes against findings in the orthorexia literature, as research suggested that such individuals engage in obsessions with
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					vegetarians and 2.4% as vegans.			nutrition, where their entire focus is on the preparation of food and ensuring the quality of food before consumption, which may or may not be a different description of being aware that needs further exploration.
Levin (2023)	Canada	Clarify the relationships between ON and related forms of psychopathology. In	Cross-sectional study	333 participants	333 students at a large urban university in Canada (72% female, Mage = 20.9, SDage = 4.3, age range = 17.3–47.3).	Participants were given partial course credit in exchange for participation. Prior to completing the survey, each student filled out an	Outcomes were measured using Latent Profile Analysis (LPA)	The study identified three distinct subtypes of orthorexia nervosa (ON) within a non-clinical sample: low, moderate, and high ON symptom

		addition, explored whether there may be subtypes of ON and if ON is associated with BMI, gender, or social media use.				electronic consent form. All questionnaires were completed electronically via Qualtrics.		groups. Those with high ON symptoms exhibited more psychological distress, perfectionism, and restrictive eating behaviors, which negatively affected their social and functional well-being, mental health and their lifestyle.
Mahfoud (2023)	Italy, Lebanon and Poland	Identify factors that may predict the development of ON.	Cross-sectional study	977 participants	(mean age: 21.94 ± 3.14 years, 77.1% females)	Participants were randomly selected from the general population using snowball sampling. They were recruited during university lessons and	outcomes were measured using self-report questionnaires to assess the key psychological traits related to orthorexia nervosa. The ORTO-15 scale, was used to assess	individuals with low self-mastery, characterized by low self-esteem and high levels of obsessive perfectionism, are more likely to exhibit ON

						<p>invited to participate via email, with the requirement of confirming participation. After receiving a link to a Google form, participants filled out questionnaires during a single online session, starting with informed consent.</p>	<p>dietary restrictions and obsessions with healthy eating. Additionally, statistical methods like correlation and regression analyses were employed to explore relationships between these traits and orthorexia symptoms.</p>	<p>tendencies. This study emphasizes the need to have a comprehensive understanding of how cultural and psychological factors interact in the development of eating disorders.</p>
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Majoch (2023)	Poland	Determine the occurrence of orthorexia in the study group and to assess the associations between selected risk factors and the prevalence of orthorexia	Cross-sectional study	4405 participants	348 women (85.93 %) and 57 men (14.07%). Four age groups were identified during the study: 18-25, 26-35, 36-45 and $\geq 46$ years old.	The survey was conducted in April 2023 among students of the Faculty of Health Sciences of the Academy of Applied Sciences in Nowy Sącz and via social media. A diagnostic survey method was employed using a questionnaire technique developed by the authors and the ORTO-15 questionnaire.	The analysis used Statistica 13.3 and Microsoft Excel 365, with significance set at $p \leq 0.05$ . The Mann-Whitney U Test compared means for multiple groups, and the chi-square test with Yates correction assessed the impact of age, gender, BMI, education, and profile on response frequency. Cronbach's alpha was calculated for test reliability, yielding $\alpha = 0.72$ , indicating the test's reliability.	statistically significant association between orthorexia and chronic diseases at $<40$ points, and between orthorexia and both BMI and physical complaints at $<35$ points. Other factors, such as education level, were not found to be significantly related to orthorexia prevalence, suggesting the need for continued research into risk factors and improved diagnostic tools
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Atsizata (2024)	Turkey	Investigating the relationship between orthorexia nervosa and cyberchondria levels among nurses.	Cross-sectional study	399 participants	Average age of the nurses was $29.2 \pm 6.4$ years, with 73.2 % being under 30 years old, 75.4 % being female, 60.7 % being single, 75.2 % having an ideal BMI level,	Face-to-face interviews. The data were collected using a participant information form, the Cyberchondria Severity Scale, and the Orthorexia Nervosa-11 scale (ORTO-11).	The study used SPSS version 25.0 for statistical analysis. Normality of data was tested using the Kolmogorov-Smirnov test. Descriptive statistics and item analysis were conducted. The independent sample t-test compared two groups, while one-way ANOVA assessed differences across multiple groups, with the Scheffe test identifying specific group differences. The Spearman correlation test was used to examine relationships between	Positive correlation between orthorexia nervosa (ON) and cyberchondria among nurses. Nurses with higher ON tendencies also exhibited higher levels of cyberchondria
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							continuous variables.	
Rossi (2023)	Italy	Investigate how obsessive-compulsive thoughts and concerns about food impact the relationship between dieting habits and orthorexia nervosa.	Cross-sectional study	1328 participants	[352 males (26.5%) and 976 females (73.5%), age $mean$ = 28.70; age $SD$ = 5.843]	Participants were recruited voluntarily through advertisements placed on social media platforms and were asked to fill in an online survey.	The study used structural equation modeling (SEM) to assess these relationships, focusing on how worries about food mediate the connection between dieting and ON. The effectiveness of this mediation process was evaluated through the SEM model and associated statistical indicators.	Both obsessive-compulsive thoughts and symptoms and dieting had a direct effect on ON and that food preoccupation partially mediated these relationships.
Sanzari (2023)	U.S	Health professionals' perspective	Cross-sectional study	96 participants	U.S. health professionals with experience	Qualtrics questionnaire advertised through social	Descriptive statistics and t-tests were used to estimate ON	Professionals varied in their views on orthorexia

		ves on orthorexi a nervosa			working clinically with eating disorders (trainees, Ph.D. psychologists, social workers/ment al health counselors, and medical health professionals). (mean age = 35.54 years, SD = 9.78, range: 21–68 years; 92.70% <u>1</u> female; 93.80% White)	media (Facebook, Instagram, and Twitter) and professional discussion lists (Eating Disorders Academy, for example)	prevalence and compare opinions by professional focus (research vs. clinical). Raters categorized participants' suggestions for additional ON criteria. Sociocultural factors were evaluated using a dedicated scale, with high reliability ( $\alpha = 0.88$ ). Bivariate correlations explored differences in sociocultural views based on professional time allocation. Missing data was accounted for, with valid percentages reported.	nervosa (ON) as a discrete diagnosis, with some supporting its recognition and others questioning its clinical utility. Participants recognized the significant role of sociocultural factors, particularly social media, in the development of ON. Differences were noted in perspectives based on whether professionals focused on research or clinical work, with those in clinical practice more likely to
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								support ON as a distinct condition.
Scheiber (2023)	Germany	Social media's influence on body image issues and orthorectic eating tendencies	Full report	647 participants	German-speaking sample of young men and women (18–30 years). Of these 647 participants, 64.9% identified themselves as German and 35.1% as Austrian	Quantitative online survey	These variables were evaluated through self-reported questionnaires, and structural equation modeling (SEM) was used to explore the relationships between these factors and ON.	Confirmed that users' involvement with health and fitness accounts on social media is positively related to ON tendencies.
Sener (2023)	Turkey	Investigate whether social media use and/or addiction affects the	Cross-sectional study	174 participants	Obese individuals who applied to Başakşehir Çam Sakura City Hospital Family Medicine Clinic Obesity	A total of 46 questions including demographic characteristics, weight loss experiences, Social Media Addiction Adult	Social Media Addiction Scale was used to assess the extent of participants' addiction to social media, while the Orthorexia Nervosa Scale (ORTO-15) was	The incidence of orthorexia nervosa was higher in obese individuals who scored higher on social media addiction scale. Sharing on

		incidence of ON in obese individuals.			Polyclinic.117 (67.2%) of the participants were female and 57 (32.8%) were male.	Form Scale (SMBÖ-YF) to measure social media addiction and ORTO-11 scale to investigate ON status were applied to the participants.	used to evaluate orthorexic behaviors. Both tools were administered to adult individuals attending an obesity clinic to identify potential correlations between social media addiction and orthorexia nervosa. The results were analyzed to determine the relationship between these two factors.	social media can have an impact on the body image and diet.
Zohar (2023)	Israel	Effect of compulsive exercise, disordered eating as well as emotional and	Cross-sectional cohort study	561 participants	561 adult volunteers (93 men, 17.09%) aged 19–72 ( $M = 32.7 \pm 11$ ), recruited via social media networks.	Online questionnaires in social media networks	Through self-report questionnaires, focusing on three key variables: attachment styles, self-esteem, and tendencies toward orthorexia nervosa	Participants with the highest levels also scored highest for compulsive exercise, insecure attachment,

		behavioral in ON					(ON). These were measured using established psychological scales, including the Dusseldorf Orthorexia Scale (DOS) for ON, and other tools for attachment and self-esteem. The data were analyzed using structural equation modeling (SEM).	alexithymia, emotion regulation difficulties, weight and shape concerns, body dissatisfaction, restriction.
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**Source:** The authors

**Notes:** This frame summarizes the characteristics of 14 studies investigating orthorexia nervosa (ON) and related factors. Studies vary in terms of location, sample size, population, methodologies, and tools used for data collection. Cross-sectional designs dominate, highlighting associations between ON and variables such as social media use, mindfulness, attachment styles, dieting habits, and cultural influences. Findings emphasize the multifaceted nature of ON, its relationship with psychological traits, and the potential influence of sociocultural factors like social media on its prevalence.

➤ **Frame 2.** The main ethos/frameworks behind the five main factors in the development of ON

Intervention	Main ethos
Social Media	The use of social media is associated with an increase in ON symptoms, due to continuous exposure to restrictive diet content and body ideals. This influence reinforces obsessive behaviors and suggests the need for interventions to promote a more conscious use of networks, in addition to research that addresses prevention and treatment strategies focused on this context.
Restrictive eating patterns and self-compassion	ON is strongly associated with restrictive and controlled eating patterns. Self-compassion can moderate these behaviors, reducing dietary perfectionism and improving the quality of life of those affected by ON, while the relationship between ON and mindful eating reveals complexities that challenge previous understandings about strict dietary control.
Mindfulness	Mindfulness, in the context of eating, involves cultivating awareness of hunger, satiety, and the present-moment experience of eating. Interventions using mindfulness and conscious eating practices aim to encourage a more intuitive relationship with food, moving away from rigid eating patterns. Studies employ mindful eating techniques to reduce obsessive food behaviors by focusing on emotional regulation and enhancing self-compassion, positioning mindfulness as a potential protective factor against ON.
Compulsive exercises	Compulsive exercise and ON are interconnected, with the obsession with health and the search for an idealized body contributing to the intensification of both behaviors. This cycle of mutual reinforcement can lead to physical complications, injuries and emotional suffering, with emotional dysregulation being a central factor in maintaining these dysfunctional patterns.



Attachment theory	Attachment theory highlights that insecure attachment styles, such as avoidant and anxious, are associated with the development of ON, with low self-esteem and difficulties in emotional regulation acting as important mediators. Interventions focused on strengthening secure attachment and improving emotional regulation may be crucial for preventing and treating ON, especially among adolescents and women.
BMI	BMI as an indicator of difficulties in maintaining appropriate body weight, which may drive individuals to adopt restrictive diets.

**Source:** The authors

**Notes:** This frame outlines the primary frameworks and concepts underlying five key factors contributing to the development of orthorexia nervosa (ON). It emphasizes the role of social media, restrictive eating patterns, mindfulness, compulsive exercise, attachment theory, and BMI in influencing ON tendencies. These frameworks highlight the complex interplay between psychological, behavioral, and sociocultural elements, suggesting potential intervention strategies aimed at prevention and treatment.