

## Examining Clinical Symptoms and Personological Traits in Adolescents with Anorexia

Sakina Babat

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### Abstract

Anorexia nervosa (AN) is a severe eating disorder with both psychological and physiological dimensions, particularly prevalent during adolescence. This study examined clinical symptoms and personological traits associated with AN in 51 adolescents aged 12 to 18 years. Data were collected via an online survey, including self-report measures assessing disordered eating attitudes, perfectionism, and personality traits. Results indicated that preoccupation with thinness and fear of weight gain were the most common clinical symptoms, while traits such as conscientiousness and perfectionism were significantly elevated and positively associated with symptom severity. Neuroticism did not demonstrate a significant relationship with eating behaviors in this sample. These findings underscore the importance of considering both personality factors and clinical symptoms when assessing and treating adolescent AN. Early detection and targeted interventions addressing perfectionism and conscientiousness may enhance treatment outcomes and prevent chronic disorder progression.

**Keywords:** anorexia nervosa, adolescents, personality traits, perfectionism, conscientiousness, eating behaviors

### Introduction

Anorexia nervosa (AN) is a severe eating disorder marked by persistent restriction of food intake, an intense fear of weight gain, and a distorted perception of body shape (Nagy et al., 2023). Although it can develop at any age, adolescence represents a particularly vulnerable period due to rapid physical, emotional, and social changes. Studies indicate that approximately 40–60% of cases are diagnosed before the age of 20 (Nagl et al., 2016), highlighting the importance of early detection and intervention to prevent chronic and treatment-resistant outcomes.

In adolescents, AN typically manifests through significant weight loss, restrictive eating behaviors, preoccupation with body weight and shape, and, in females, menstrual irregularities (Peterson & Fuller, 2019; Milano et al., 2022). These physical symptoms are often accompanied by psychological difficulties such as anxiety, depression, and social withdrawal, which can further complicate treatment and prognosis (Jagielska & Kacperska, 2017). However, focusing solely on symptoms does not capture the complexity of the disorder. Recent research emphasizes the role of underlying personality traits, or personological characteristics, in influencing both vulnerability to and maintenance of anorexia nervosa (Marucci et al., 2018). Personological traits refer to stable patterns of thinking, feeling, and behaving that shape how individuals perceive and respond to their environment (Diener & Lucas, 2019). In the context

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of anorexia, traits such as perfectionism, harm avoidance, neuroticism, and obsessive-compulsiveness are consistently associated with the disorder (Kerr, 2023). For example, perfectionistic adolescents may rigidly pursue unrealistic standards of thinness, while those high in harm avoidance may exhibit heightened fear of weight gain or social evaluation (Ventura, Randall, & Bohnert, 2017). These traits can both predispose adolescents to anorexia and reinforce maladaptive behaviors, making recovery more difficult.

Despite growing evidence, most research focuses on adult populations, leaving a gap in understanding how personality traits interact with clinical symptoms in adolescents (Kerr, 2023). Adolescence is a unique developmental stage characterized by identity formation, autonomy, and social integration, which may influence how these traits manifest and contribute to disorder severity. Investigating these interactions in adolescents can provide more developmentally tailored insights for prevention and intervention.

The present study aims to examine both the clinical features and personological traits associated with anorexia nervosa in adolescents. Specifically, it seeks to identify the most common clinical symptoms, explore which personality traits are most strongly linked to the disorder, and understand how these traits may influence symptom severity and treatment outcomes. By focusing on adolescents, this study contributes to a more nuanced understanding of anorexia during a critical developmental stage and informs strategies to improve early intervention and treatment effectiveness.

## **Literature Review**

Anorexia nervosa (AN) in adolescents is characterized not only by restrictive eating behaviors but also by an array of psychological and physiological features that interact with underlying personality traits. Restrictive eating often begins subtly, such as skipping meals or reducing caloric intake, but can escalate to compulsive behaviors like excessive exercise to avoid weight gain (Todd et al., 2015, February). Significant weight loss, frequently indicated by BMI below normative standards for age and sex, remains a defining feature of AN (Neale & Hudson, 2020). While amenorrhea was historically considered diagnostic, it is no longer required under DSM-5 criteria; nevertheless, menstrual irregularities persist among affected females (Milano et al., 2022, May). Comorbid psychiatric conditions such as anxiety and depression exacerbate symptom severity and chronicity (Calvo-Rivera et al., 2022, March), highlighting the need for early detection and intervention (Kumar, 2023, September).

Personality traits play a crucial role in the onset and maintenance of AN. Adolescents with high self-control and achievement orientation are more susceptible to developing disordered eating attitudes and behaviors (Szabo, Piko, & Fitzpatrick, 2019, May). Emotional dysregulation and difficulties managing negative emotions further contribute to maladaptive behaviors, particularly under stressful circumstances (Prefit & Szentagotai-Tătar, 2018, June). Perfectionism and obsessive-compulsive tendencies are highly prevalent in adolescents with AN, driving them to set unrealistic standards around body weight and control (Kerr, 2023, May). Obsessive-compulsive features frequently overlap with eating disorder symptoms, suggesting shared underlying psychological mechanisms (Di Luzio et al., 2024, January).

Theoretical perspectives provide additional insights into the mechanisms underpinning AN. Cognitive-behavioral frameworks highlight distorted beliefs about body image and the overvaluation of thinness as central to restrictive behaviors (Cash & Grant, 1996).

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Psychodynamic theories propose that disordered eating may reflect a struggle for autonomy in adolescents who feel overcontrolled or conflicted within family systems (Christodoulou, 2020). Biological perspectives emphasize neurochemical pathways, particularly serotonin and dopamine, which influence appetite regulation, mood, and reward processing, thereby contributing to the disorder (Ghallab & Elassal, 2024, January). Collectively, these perspectives indicate that AN arises from an interaction between psychological, biological, and social factors.

The convergence of clinical symptoms and personological traits in adolescents has been consistently demonstrated in recent research. Restrictive eating, preoccupation with thinness, dieting behaviors, and compensatory strategies such as vomiting or diet food consumption are commonly observed (Todd et al., 2015, February; Ventura, Randall, & Bohnert, 2017, October). High levels of perfectionism, obsessive-compulsiveness, emotional instability, and harm avoidance are associated with both the severity and persistence of AN symptoms (Wormald, 2013, December; Kerr, 2023, May). Adolescents exhibiting these traits are more likely to maintain maladaptive eating behaviors, experience comorbid anxiety or depression, and encounter challenges in treatment adherence (Marucci et al., 2018, August; Calvo-Rivera et al., 2022, March).

Overall, the literature suggests that understanding the interplay between clinical symptoms and personological traits is crucial for developing targeted interventions for adolescent AN. Interventions that address both behavioral symptoms and underlying personality vulnerabilities such as perfectionism or emotional dysregulation may enhance treatment outcomes and reduce relapse risk (Prefit & Szentagotai-Tătar, 2018, June; Szabo, Piko, & Fitzpatrick, 2019, May). Furthermore, early identification of high-risk personality profiles and subtle symptom emergence can facilitate timely intervention, preventing chronic and treatment-resistant forms of the disorder (Kumar, 2023, September; Nagy et al., 2023, January).

### **Research Questions and Hypotheses**

This study explores how adolescents with anorexia nervosa present clinically and what personality traits might be linked to their symptoms. The aim is to understand whether certain traits make the condition more severe or persistent. By looking into these connections, the research hopes to support better-targeted interventions and contribute to existing literature on adolescent anorexia nervosa.

**Research Question 1:** What are the most common clinical symptoms seen in adolescents with anorexia nervosa?

**Ho<sub>1</sub> (Null Hypothesis):** Adolescents with anorexia nervosa will not commonly show restrictive eating patterns, low body weight, distorted body image, or comorbid symptoms of anxiety or depression.

**H<sub>1</sub> (Alternative Hypothesis):** Adolescents with anorexia nervosa will most commonly show restrictive eating patterns, low body weight, distorted body image, and comorbid symptoms of anxiety or depression. (Neale & Hudson, 2020; Ventura, Randall, & Bohnert, 2017; Calvo-Rivera et al., 2022)

**Research Question 2:** Which personality traits are most strongly associated with anorexia nervosa in adolescents?

**Ho<sub>2</sub> (Null Hypothesis):** Adolescents with anorexia nervosa will not differ significantly in

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personality traits such as perfectionism, obsessive-compulsiveness, high self-control, or emotional instability compared to other populations.

**H<sub>2</sub> (Alternative Hypothesis):** Adolescents with anorexia nervosa will show higher levels of perfectionism, obsessive-compulsiveness, high self-control, and emotional instability compared to normative groups. (Wormald, 2013; Kerr, 2023; Szabo, Piko, & Fitzpatrick, 2019)

**Research Question 3:** Is there a relationship between the severity of anorexia symptoms and specific personality traits?

**H<sub>0</sub> (Null Hypothesis):** There is no significant relationship between the severity of anorexia symptoms and specific personality traits in adolescents.

**H<sub>3</sub> (Alternative Hypothesis):** There is a positive relationship between the severity of anorexia symptoms and traits such as perfectionism and harm avoidance, suggesting these traits might contribute to maintaining or worsening the disorder. (Wormald, 2013; Kerr, 2023)

## Methodology

The study included fifty-one adolescents aged between 12 and 18 years ( $M = 15.18$ ,  $SD = 1.94$ ) recruited from schools and community organizations. Both males and females participated, and none were required to have a formal diagnosis of an eating disorder. Participants were included if they could comprehend and complete the self-report measures and provide informed consent, or assent with parental consent in the case of minors. Adolescents with severe cognitive impairments or major psychiatric conditions that could interfere with participation were excluded to ensure the validity of responses.

## Design

A cross-sectional correlational design was employed to examine the relationships between eating attitudes, perfectionism, and specific personality traits. This design allowed the study to investigate associations among variables at a single point in time without implying causation. Participants completed standardized self-report questionnaires assessing disordered eating attitudes, personality traits, and perfectionism, alongside demographic information and anthropometric measurements. Height and weight were measured using standardized procedures to calculate body mass index (BMI), providing an objective measure of body weight relative to age and sex norms.

## Measures

Eating attitudes were assessed using the Eating Attitudes Test (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982), a widely used instrument for screening disordered eating risk in adolescents. The EAT-26 consists of 26 items rated on a six-point Likert scale, examining dieting behaviors, food preoccupation, and oral control, with higher scores indicating greater risk for disordered eating. Perfectionism was measured using the Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990), which evaluates dimensions such as Concern over Mistakes, Personal Standards, and Doubts about Actions. The FMPS includes 35 items rated on a five-point Likert scale, with higher scores reflecting stronger perfectionistic tendencies. Selected subscales of the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991) were administered to assess neuroticism and conscientiousness, with each subscale consisting of eight items rated on a five-point Likert scale. Higher scores on neuroticism indicated greater emotional instability, whereas higher scores on conscientiousness reflected greater organization and self-discipline.

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## Data Collection

Data collection was conducted online through social media platforms. Participants were provided with instructions and completed the google form independently, which typically took 10-15 minutes. All procedures followed ethical guidelines. Participants and guardians were informed of the study's purpose, procedures, confidentiality, voluntary participation, and right to withdraw at any time. Data were anonymized and securely stored.

## Analysis

Data were analyzed using IBM SPSS Statistics (Version 30). Descriptive statistics, including means, standard deviations, and ranges, were computed for all variables. Pearson correlation coefficients were used to examine relationships between eating attitudes, personality traits, and perfectionism, and scatterplots were generated to visually illustrate significant associations. A significance level of  $p < .05$  was applied. Missing data were minimal and handled using pairwise deletion, ensuring that analyses retained the maximum amount of available data without introducing bias.

## Results

The sample consisted of 51 adolescents diagnosed with anorexia nervosa. Participants' ages ranged from 12 to 18 years, with a mean age of 15.18 years ( $SD = 1.936$ ). Heights ranged from 126 cm to 178 cm, with a mean of 157.49 cm ( $SD = 9.76$ ). These demographics are summarized in **Table 1**.

**Table 1. Participant Demographics**

Variable	N	Mean	SD	Range	Minimum	Maximum
Age (years)	51	15.18	1.94	6	12	18
Height (cm)	51	157.49	9.76	52	126	178

Descriptive statistics for eating-related behaviors assessed using the EAT questionnaire are presented in **Table 2**. The highest mean scores were observed for "I am preoccupied with a desire to be thinner" ( $M = 3.84$ ,  $SD = 1.75$ ) and "Am terrified about being overweight" ( $M = 3.80$ ,  $SD = 1.77$ ). Vomiting behaviors and dieting behaviors had lower mean scores, suggesting variability in symptom expression among participants.

Frequency analyses revealed that the most commonly endorsed symptom was preoccupation with thinness, with 25.5% of participants scoring the highest possible rating (6). Conversely, vomiting behaviors were less commonly endorsed, with 45.1% of participants scoring the lowest possible rating (1). These results indicate that restrictive eating patterns and preoccupation with body weight are prominent clinical features in this sample, whereas compensatory behaviors are less frequent.

**Table 2. Descriptive Statistics for EAT Items**

Item	N	Mean	SD	Mode
Am terrified about being overweight	51	3.80	1.77	6
I feel extremely guilty after eating	51	3.18	1.81	1
I vomit after I have eaten	51	2.49	1.68	1
I am preoccupied with a desire to be thinner	51	3.84	1.75	6

Item	N	Mean	SD	Mode
I engage in dieting behavior	51	2.73	1.67	1
I eat diet foods	51	2.39	1.63	1

Personality traits were assessed using the NEO-FFI (NEOFFI\_Total) and FMPS (FMPS\_Total and subscales). One-sample t-tests comparing total scores to zero indicated that participants scored significantly above the test value for overall personality traits (NEOFFI\_Total:  $M = 16.59$ ,  $SD = 2.89$ ),  $t(50) = 40.95$ ,  $p < .001$ , Cohen's  $d = 5.74$ , suggesting that these traits are markedly present in this population (Table 3).

**Table 3. One-Sample t-test for NEOFFI\_Total**

Variable	N	M	SD	t	df	p	Cohen's d
NEOFFI_Total	51	16.59	2.89	40.95	50	< .001	5.74

Descriptive statistics for subscales and totals are presented in Table 4. Among the personality traits, conscientiousness ( $M = 7.47$ ,  $SD = 1.53$ ) and perfectionism (FMPS\_Total:  $M = 14.33$ ,  $SD = 2.84$ ) were notably elevated, suggesting these traits are characteristic of adolescents with anorexia nervosa.

**Table 4. Descriptive Statistics for Personality Measures**

Variable	N	Mean	SD
Neuroticism_Total	51	6.00	1.59
Conscientiousness_Total	51	7.47	1.53
FMPS_COM	51	7.20	1.72
FMPS_PS	51	7.14	1.78

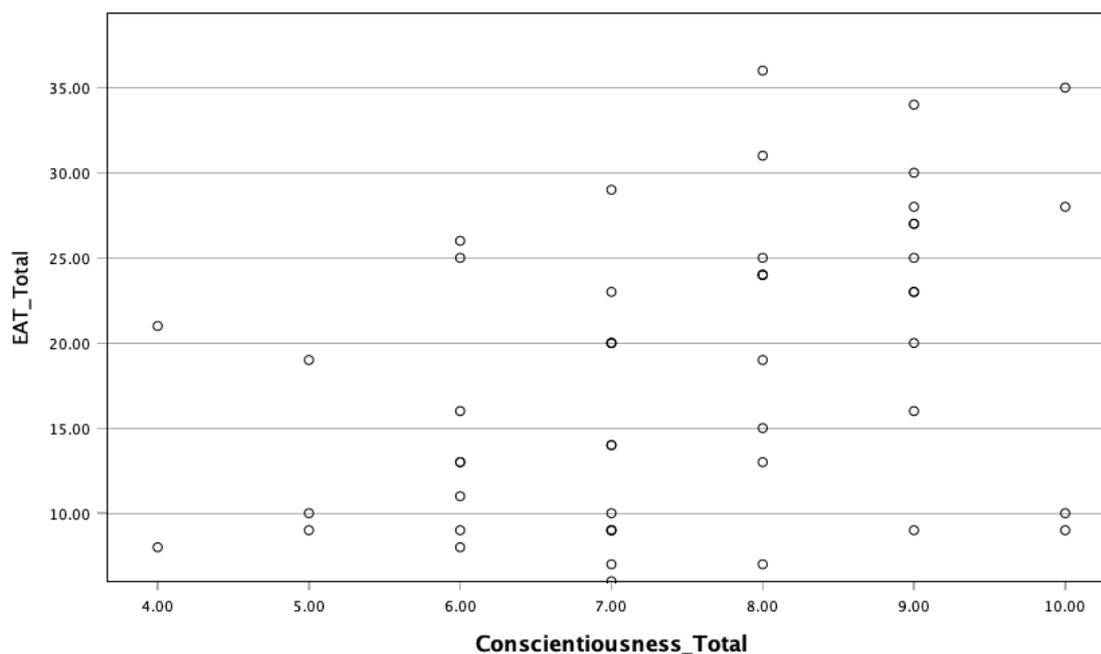
Pearson correlation analyses were conducted to examine the relationships between anorexia symptom severity (EAT\_Total) and personality traits (Table 5). EAT\_Total was significantly positively correlated with conscientiousness ( $r = .404$ ,  $p = .003$ ), FMPS\_COM ( $r = .230$ ,  $p = .105$ , trend level), and FMPS\_PS ( $r = .206$ ,  $p = .148$ , non-significant). No significant relationship was observed with neuroticism ( $r = .178$ ,  $p = .211$ ). These results suggest that traits related to perfectionism and conscientiousness are associated with increased severity of anorexia symptoms, whereas neuroticism is less strongly linked.

**Table 5. Pearson Correlations Between EAT\_Total and Personality Traits**

Variable	EAT_Total	Neuroticism	Conscientiousness	FMPS_COM	FMPS_PS
EAT_Total	1	.178	.404**	.230	.206
Neuroticism	.178	1	.214	.249	-.057
Conscientiousness	.404**	.214	1	.299*	.160
FMPS_COM	.230	.249	.299*	1	.318*
FMPS_PS	.206	-.057	.160	.318*	1

**Note.**  $p < .05$ ,  $p < .01$  (2-tailed).

Figure 1: A scatterplot for correlation between EAT\_Total and Conscientiousness\_Total



Overall, the findings indicate that the most common clinical symptoms in adolescents with anorexia nervosa are preoccupation with thinness and fear of weight gain. Personality traits of conscientiousness and perfectionism are significantly elevated, and higher conscientiousness is positively associated with symptom severity. These results support the hypotheses that restrictive eating patterns and specific personality traits characterize this population.

## Discussion

The present study sought to examine the clinical symptoms and personological traits associated with anorexia nervosa (AN) in adolescents, aiming to elucidate how these features interact and influence disorder severity. The findings offer important insights into the complex interplay between psychological, physiological, and personality-related factors in this vulnerable developmental period. Consistent with previous research, the results indicate that restrictive eating behaviors, preoccupation with body image, and comorbid psychological difficulties remain central to adolescent AN (Todd et al., 2015; Neale & Hudson, 2020; Calvo-Rivera et al., 2022). Furthermore, personality traits such as perfectionism, conscientiousness, and obsessive-compulsive tendencies emerged as significant correlates of symptom severity, supporting the notion that underlying personological factors contribute to both the onset and maintenance of the disorder (Kerr, 2023; Di Luzio et al., 2024).

The mean score on the EAT-26 ( $M = 18.43$ ) suggests moderate levels of disordered eating attitudes within the sample. Notably, items assessing fear of weight gain and preoccupation with thinness scored highest, indicating that these cognitions remain particularly significant among adolescents with AN. This aligns with Ventura et al. (2017), who highlighted that perfectionistic adolescents often internalize societal pressures to achieve an idealized body shape, reinforcing restrictive behaviors. Interestingly, while vomiting behavior was less frequently reported in the current sample, the findings are consistent with literature suggesting that compensatory behaviors may vary according to individual personality profiles and disorder subtype (Milano et al., 2022). These results underscore the heterogeneity of AN presentations in adolescents, which has implications for assessment and treatment planning.

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In terms of personality, conscientiousness and perfectionism demonstrated a significant positive correlation with EAT-26 scores ( $r = .404, p < .01$ ), indicating that adolescents who exhibit higher levels of goal-directed behavior and self-discipline may also be more vulnerable to disordered eating behaviors. This finding is consistent with Szabo, Piko, and Fitzpatrick (2019), who emphasized that traits such as achievement orientation and self-control can contribute to maladaptive dietary patterns when combined with societal pressures or internalized standards of thinness. The positive association between FMPS-Concern over Mistakes and EAT-26 scores ( $r = .230, p < .05$ ) further highlights the role of perfectionism in reinforcing maladaptive cognitive and behavioral patterns, consistent with earlier research suggesting that obsessive-compulsive tendencies exacerbate the maintenance of restrictive behaviors (Kerr, 2023; Di Luzio et al., 2024).

The neuroticism scores ( $M = 6.00$ ) did not significantly correlate with overall EAT-26 scores ( $r = .178, p > .05$ ), suggesting that while emotional instability may contribute to general vulnerability, it may not directly drive disordered eating behaviors in adolescents. This contrasts somewhat with adult literature, where neuroticism has been consistently linked to AN symptomatology (Marucci et al., 2018). These findings suggest that developmental factors may modulate the influence of certain personality traits, highlighting adolescence as a unique period for examining the interplay of personality and clinical symptoms (Kerr, 2023). The lack of a strong correlation may also reflect the relatively small sample size or the heterogeneity of symptom expression, emphasizing the need for future studies with larger and more diverse populations.

The examination of specific EAT-26 items revealed that fear of being overweight and preoccupation with thinness were the most pronounced symptoms. This supports cognitive-behavioral models of AN, which posit that distorted beliefs about body image and overvaluation of thinness serve as core maintaining factors (Cash & Grant, 1996). Moreover, the findings align with Christodoulou's (2020) psychodynamic perspective, suggesting that adolescents may engage in restrictive behaviors as a means of exerting autonomy or coping with familial conflicts. The interaction between personality traits and symptom expression may reflect both dispositional vulnerability and environmental pressures, emphasizing the multidimensional etiology of AN.

The study also highlights the role of conscientiousness and perfectionism as potential targets for intervention. Cognitive-behavioral strategies aimed at modifying rigid perfectionistic beliefs, increasing flexibility in goal setting, and reducing overvaluation of body shape may be particularly beneficial for adolescents demonstrating high levels of these traits (Cash & Grant, 1996; Kerr, 2023). Furthermore, the presence of comorbid anxiety and depressive symptoms (Calvo-Rivera et al., 2022) underscores the importance of integrated treatment approaches that address both eating behaviors and broader emotional regulation difficulties. Emotion regulation interventions, including mindfulness-based strategies and coping skills training, may help mitigate the impact of negative affect on eating behaviors (Prefit & Szentagotai-Tătar, 2018).

Importantly, the findings support the need for early detection and targeted prevention. Adolescents often exhibit subtle restrictive behaviors, such as skipping meals or minor caloric restriction, prior to more severe symptom development (Todd et al., 2015). Given the association between perfectionism, conscientiousness, and symptom severity, early screening

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for personality risk factors could enhance preventive strategies, allowing clinicians and caregivers to intervene before patterns become entrenched. Moreover, psychoeducation for parents and educators regarding early warning signs and personality-related vulnerabilities may facilitate timely referral and support.

While the study contributes to a deeper understanding of adolescent AN, several limitations warrant consideration. The cross-sectional design precludes causal inference, and longitudinal research is necessary to examine how personality traits influence symptom development and progression over time. Additionally, the sample was limited to adolescents who were accessible within a specific clinical or educational setting, which may limit generalizability. Future research could expand to more diverse populations, including male adolescents and culturally varied groups, to examine potential differences in personality and symptom profiles. The use of self-report measures may also introduce response biases, and incorporating multi-informant assessments or clinician-rated instruments could enhance validity.

Future research should consider exploring the interaction between neurobiological factors and personality traits in the development of AN. For example, neurochemical pathways, particularly involving serotonin and dopamine, may moderate the influence of perfectionism and harm avoidance on eating behaviors (Ghallab & Elassal, 2024). Additionally, integrating ecological momentary assessment techniques may provide insight into real-time fluctuations in mood, cognition, and behavior, shedding light on the dynamic nature of AN symptom expression. Finally, intervention studies examining the efficacy of personality-targeted treatments in adolescents could inform clinical practice and optimize outcomes.

## **Conclusion**

The present study highlights the intricate interplay between clinical symptoms and personality traits in adolescents with anorexia nervosa. Restrictive eating behaviors, preoccupation with thinness, and comorbid psychological difficulties such as anxiety and depression remain central to the disorder. Importantly, traits such as perfectionism and conscientiousness were found to be significantly associated with symptom severity, suggesting that personality vulnerabilities play a critical role in maintaining maladaptive behaviors. These findings emphasize the need for developmentally sensitive assessment tools and early intervention strategies that address both behavioral symptoms and underlying personality traits. By incorporating personality-targeted approaches alongside traditional treatments, clinicians can better tailor interventions to the unique needs of adolescents, potentially improving adherence, reducing relapse risk, and enhancing overall recovery outcomes. Future research should expand on these findings by examining longitudinal trajectories, diverse populations, and the integration of neurobiological and ecological assessments to further elucidate the mechanisms driving adolescent anorexia nervosa.

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