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Thinking Patterns and Self-Worth: Predictors of Eating Disorder Symptoms in Adolescents

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ABSTRACT

Adolescence is a developmental period characterized by heightened vulnerability to maladaptive thinking and self-evaluative challenges, increasing the risk of disordered eating behaviors. This study examined the relationships among thinking patterns (cognitive distortions), self-worth (self-esteem), and eating disorder symptoms in 100 adolescents (aged 16–19) from Faisalabad, Pakistan. Participants completed the Cognitive Distortions Scale (CDS; Covin et al., 2011), Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), and Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 2008)). Correlation analyses revealed significant positive associations between cognitive distortions and eating disorder symptoms ($r = .580$, $p < .01$), self-esteem and eating symptoms ($r = .241$, $p < .05$), and self-esteem and cognitive distortions ($r = .248$, $p < .05$). Multiple regression indicated that cognitive distortions significantly predicted eating disorder symptoms ($\beta = .554$, $p < .001$), whereas self-esteem did not independently contribute. Gender differences were minimal. Mediation analysis ($N = 100$) indicated that cognitive distortions significantly predicted eating disorder symptoms ($B = 0.205$, $p < .001$), while self-esteem did not mediate this relationship (indirect effect = 0.010, 95% CI [-0.015, 0.035]). The model explained 34.6% of the variance in eating disorder symptoms ($R^2 = .346$, $F(2, 97) = 25.69$, $p < .001$), highlighting cognitive distortions as a primary target for intervention. Findings underscore the pivotal role of maladaptive thinking in adolescent's eating pathology and highlight the need for early cognitive focused interventions.

Keywords: Adolescents, Thinking Patterns, Self-Worth, Eating Disorder Symptoms, Cognitive Distortions, Self-esteem, Pakistan

Introduction

Adolescence is a critical developmental stage characterized by rapid physical, cognitive, and socio-emotional changes, during which individuals are particularly vulnerable to psychological distress, maladaptive thinking, and disordered eating behaviors (Steinberg, 2005; Sawyer et al., 2012). During this period, adolescents experience increased self-

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consciousness, heightened sensitivity to social evaluation, and emerging autonomy, all of which can influence body image perception and self-esteem (Harter, 2012).

Cognitive distortions, defined as systematic errors in thinking that lead to negative perceptions and maladaptive behaviors, have been widely implicated in psychological disorders, including depression, anxiety, and eating disorders (Beck, 1976; Covin et al., 2011). Common cognitive distortions, such as catastrophizing, overgeneralization, selective abstraction, and dichotomous thinking**,** can exacerbate negative self-appraisal and contribute to body dissatisfaction and maladaptive eating behaviors (Vitousek & Manke, 1994; Fairburn et al., 2003). Research has consistently shown that adolescents who exhibit higher levels of cognitive distortions are more likely to engage in restrictive eating, binge-eating, and compensatory behaviors, underscoring the importance of addressing maladaptive thinking in prevention and intervention programs (Stice et al., 2017).

Self-esteem, or the subjective evaluation of one's own worth, is another critical factor influencing adolescent mental health. Low self-esteem has been consistently linked to body dissatisfaction, eating pathology, and maladaptive coping strategies (Mann et al., 2004; Rosenberg, 1965). Conversely, adolescents with higher self-esteem may demonstrate resilience against societal and peer pressures related to body image, although in some contexts, elevated self-esteem without adaptive coping strategies can coexist with risk factors for eating disorders (Marsh et al., 2006).

Although substantial research exists in Western populations, studies focusing on South Asian adolescents remain limited. Cultural factors, including familial expectations, traditional gender roles, and sociocultural attitudes toward body image, may shape the experience of cognitive distortions and self-esteem differently in this population (Al-Sabah et al., 2014; Mishra & Singh, 2017). Pakistan, in particular, presents a context where rapid urbanization, exposure to global media, and educational pressures may influence adolescent's psychological well-being and risk for eating pathology (Jabeen et al., 2020).

The present study seeks to address this gap by examining the interrelationships among cognitive distortions, self-esteem, and eating disorder symptoms in Pakistani adolescents. Understanding these relationships not only advances theoretical knowledge but also informs the design of culturally sensitive preventive interventions aimed at reducing disordered eating and promoting mental health during adolescence.

Objectives

Examine the relationship between cognitive distortions and eating disorder symptoms.

Explore the association between self-esteem and eating disorder symptoms.

Investigate the relationship between self-esteem and cognitive distortions.

Determine whether cognitive distortions and self-esteem predict eating disorder symptoms.

Explore potential gender differences in cognitive distortions, self-esteem, and eating disorder symptoms.

To examine whether self-esteem mediates the relationship between cognitive distortions and eating disorder symptoms among adolescents.

Hypotheses

H1: Cognitive distortions would be positively associated with eating disorder symptoms.

H2: Self-esteem will be negatively associated with eating disorder symptoms, such that lower self-esteem corresponds with higher levels of disordered eating.

H3: Self-esteem will be negatively associated with cognitive distortions, such that lower self-esteem corresponds with greater levels of distorted thinking.

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H4: Cognitive distortions and self-esteem together significantly would predict eating disorder symptoms.

H5: There would be gender differences in self-esteem, cognitive distortions, and eating disorder symptoms among adolescents.

H6: The Self-esteem would mediate the relationship between cognitive distortions and eating disorder symptoms in adolescents.

Literature Review

Cognitive distortions, defined as biased or maladaptive thought patterns, have been consistently linked to various psychological disorders, including eating disorders (Beck, 1976; Covin et al., 2011). These distortions, such as catastrophizing, overgeneralization, and all or nothing thinking**,** influence how adolescents perceive themselves and their environment, often exacerbating negative self-evaluation and body dissatisfaction (Vitousek & Manke, 1994).

Research indicates that cognitive distortions are not merely correlates but significant predictors of eating pathology. Stice (2002) demonstrated that adolescents with high levels of maladaptive cognitions were more prone to binge eating, restrictive dieting, and compensatory behaviors. Similarly, Fairburn et al. (2003) highlighted the role of distorted beliefs regarding body shape and weight in maintaining disordered eating patterns. In a study, Rodgers et al. (2017) emphasized that cognitive distortions mediate the relationship between social media exposure and disordered eating, showing that distorted thinking amplifies susceptibility to sociocultural pressures.

Self-esteem, or an individual's evaluation of self-esteem, has been identified as a critical factor in adolescent mental health and eating behaviors (Rosenberg, 1965; Mann et al., 2004). Low self-esteem is associated with body dissatisfaction, negative affect, and maladaptive coping strategies, all of which contribute to eating disorder symptomatology (Shafran et al., 2004). Conversely, higher self-esteem can act as a protective factor, buffering against the development of disordered eating, although some studies note that high self-esteem without adaptive coping may coexist with certain eating pathology (Marsh et al., 2006).

Several studies suggest that self-esteem mediates the relationship between cognitive distortions and eating disorders. Shafran et al. (2004) proposed that distorted cognitive patterns lower self-esteem, which in turn exacerbates eating pathology. Empirical research supports this model; for instance, O'Dea and Abraham (2000) demonstrated that interventions targeting self-esteem improvements led to significant reductions in eating disorder symptoms among adolescents.

Adolescent females consistently report higher prevalence of eating disorder symptoms than males, likely due to societal pressures regarding thinness and beauty ideals (Stice, 2002; Levine & Murnen, 2009). Cognitive distortions and low self-esteem may interact with these pressures, increasing vulnerability to disordered eating. In South Asian contexts, including Pakistan, family expectations, cultural norms, and exposure to global media can further shape adolescent's body image concerns (Jabeen et al., 2020; Mishra & Singh, 2017). However, limited research has examined these interactions, emphasizing the need for culturally sensitive studies in this population.

Theoretical Frameworks

Several theoretical models inform the relationship between cognitive distortions, self-esteem, and eating disorder symptoms:

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Cognitive Behavioral Theory (CBT): Posits that distorted cognitions lead to maladaptive behaviors, including disordered eating (Beck, 1976; Fairburn, 2008). CBT based interventions targeting maladaptive thought patterns are effective in reducing eating pathology (Wilson et al., 2010).

Sociocultural Model: Suggests that societal, peer, and media influences contribute to body dissatisfaction and disordered eating (Stice, 2002; Levine & Murnen, 2009). Adolescents internalize societal standards of thinness, which interact with cognitive distortions and self-esteem to influence eating behaviors.

Self-Esteem Mediation Model: Highlights self-esteem as a mediating factor between cognitive distortions and eating disorder symptoms (Shafran et al., 2004; O'Dea & Abraham, 2000). Interventions enhancing self-esteem can disrupt this pathway, reducing the risk of disordered eating.

Empirical Evidence from South Asian Contexts

Few studies have explored these relationships in Pakistani adolescents. Jabeen et al. (2020) reported that exposure to global media, coupled with low self-esteem, predicted higher levels of body dissatisfaction and disordered eating in Pakistani youth. Mishra and Singh (2017) found that adolescents with higher cognitive distortions were more likely to engage in restrictive dieting and binge eating behaviors, highlighting the universality of these constructs across cultural contexts.

Overall, the literature suggests that cognitive distortions and self-esteem are central factors in the development and maintenance of eating disorder symptoms, and that gender and cultural context play important moderating roles. The current study aims to further examine these relationships among adolescents in Faisalabad, Pakistan, thereby contributing to both theoretical knowledge and culturally relevant intervention strategies.

Method

Research Design

This study employed a quantitative, cross-sectional correlational design to examine the relationships among cognitive distortions, self-esteem, and eating disorder symptoms in adolescents. The design allowed for the assessment of predictive and mediating relationships between variables at a single point in time, facilitating the evaluation of both direct and indirect effects (Cohen, Cohen, West, & Aiken, 2003; Field, 2018). A correlational approach was appropriate for testing the hypothesized associations and mediation models without manipulating the independent variables, aligning with standard practices in adolescent psychological research (Setia, 2016).

Participants

The study sample consisted of 100 adolescents (69 females, 31 males) aged 16–19 years (M = 18.01, SD = 0.91) from Faisalabad, Pakistan. Participants were recruited using a purposive sampling technique from schools, colleges, and hospitals, emphasizing targeted selection for psychological assessments (Setia, 2016). Adolescents were chosen as the focus population due to their heightened vulnerability to cognitive distortions, self-esteem fluctuations, and eating related concerns during this developmental stage (Harter, 2012; Stice, 2002).

Inclusion criteria required participants to be aged between 13–19 years, and willing to provide informed consent (with parental consent obtained for minors). Participants with BMI values indicating potential eating concerns (underweight: <18.5; overweight/obese: ≥25) or those experiencing significant recent weight changes were prioritized, as these factors are closely associated with eating pathology (Fairburn et al., 2003). Exclusion criteria included adolescents with severe psychiatric disorders (e.g., schizophrenia) or

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medical conditions that could significantly impact cognitive functioning (Vitousek & Manke, 1994).

Measures

Cognitive Distortions Scale (CDS; Covin et al., 2011)

The CDS is a 40 items self-report instrument measuring maladaptive cognitive patterns such as catastrophizing, overgeneralization, and dichotomous thinking. Items are rated on a 5 point Likert scale (1 = strongly disagree, 5 = strongly agree). Higher scores indicate greater susceptibility to cognitive distortions. The CDS has demonstrated excellent reliability in diverse populations ($\alpha = 0.945$) and strong construct validity (Covin et al., 2011; Beck, 1976). For the present study, the CDS was translated into Urdu using a forward backward translation procedure to ensure linguistic and conceptual equivalence for the Pakistani adolescent population (Beaton et al., 2000). This adaptation aimed to maintain the psychometric properties of the original scale while enhancing comprehension and cultural relevance.

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)

The RSES is a 10 items self-report measure assessing overall self-esteem and self-acceptance. Items are rated on a 4 point Likert scale (1 = strongly disagree, 4 = strongly agree), with higher scores reflecting higher self-esteem. The scale is widely validated in adolescent populations (Sinclair et al., 2010). The scale was translated into Urdu following the standardized forward backward translation procedure (Beaton et al., 2000) to ensure clarity and cultural relevance for the adolescent participants.

Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 2008)

The EDE-Q is a 28 items questionnaire assessing the behavioral and psychological symptoms of eating disorders, including restraint, eating concerns, weight concern, and shape concern. Items are rated on a 7 point Likert scale (0–6), measuring symptom frequency and severity over the past 28 days. The EDE-Q has been widely validated across adolescent populations (Mond et al., 2004; Fairburn & Beglin, 2008). The Urdu version of the EDE-Q was developed using a forward backward translation process (Beaton et al., 2000) to ensure both linguistic accuracy and conceptual equivalence.

Procedure

Participants, along with their parents in the case of minors, provided written informed consent prior to participation. Each participant was assigned a unique identification code to maintain confidentiality, ensuring that all collected data were anonymized and securely stored. Data collection was conducted in structured and supervised settings, including classrooms in schools, designated rooms in educational institutions, and hospital consultation areas. This environment allowed for standardized administration of questionnaires, minimizing distractions and ensuring accurate responses (Field, 2018). Before administering the measures, participants received verbal and written instructions explaining the purpose of the study, the nature of the questionnaires, and guidance on how to respond. Participants were encouraged to ask questions if clarification was needed, ensuring comprehension and reducing potential response errors (Pallant, 2020). The study instruments, the Cognitive Distortions Scale (CDS), Rosenberg Self-Esteem Scale (RSES), and Eating Disorder Examination Questionnaire (EDE-Q) were administered in a single session lasting approximately 30–40 minutes. To reduce response bias, participants were explicitly informed that there were no “right” or “wrong” answers, and the importance of honest and accurate responses was emphasized. Upon completion, questionnaires were collected immediately, double checked for

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completeness, and securely stored. Data entry into IBM SPSS version 25 was performed with careful attention to accuracy and consistency.

The procedure also incorporated measures to minimize psychological risk. Participants were informed that they could withdraw at any time without penalty, and were provided with information about mental health support services in the event of distress during or after the session. A debriefing statement was provided after completion, clarifying the study's objectives and offering an opportunity for participants to ask questions or express concerns.

Overall, the procedure was designed to maximize ethical standards, participant comfort, and data quality, reflecting best practices in adolescent psychological research (Harter, 2012; Setia, 2016).

Results

Table 1

Participant Demographics (N = 100)

Variable	Category	n	%
Age	16	6	6%
	17	23	23%
	18	35	35%
	19	36	36%
Gender	Female	69	69%
	Male	31	31%
Residential Status	Urban	87	87%
	Rural	13	13%

The study sample consisted of 100 adolescents aged 16 to 19 years. The age distribution showed that the majority of participants were in late adolescence, with 18 year olds comprising 35% and 19 year olds 36% of the sample. Participants aged 17 and 16 accounted for 23% and 6%, respectively, indicating a smaller representation of mid-adolescents. Regarding gender, the sample was predominantly female (69%), while males represented 31% of the participants. This higher proportion of female participants is consistent with research on eating disorder symptoms, as females are generally more vulnerable to body image concerns and disordered eating behaviors during adolescence. In terms of residential status, most participants resided in urban areas (87%), with only 13% from rural areas. This urban predominance may reflect easier access to schools, hospitals, and psychological services in cities, as well as greater exposure to sociocultural pressures related to body image and eating behaviors.

Overall, the demographic characteristics indicate that the sample primarily represents late-adolescent, urban and female adolescents, which is an important consideration when interpreting the study findings and their generalizability.

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Table 2
Pearson Correlations among Self-Esteem, Cognitive Distortions, and Eating Disorder Symptoms (N = 100)

Variable	1	2	3
1. Self-Esteem	1	0.248*	0.241*
2. Cognitive Distortions		1	0.580**
3. Eating Disorder Symptoms			1

*p < .05, **p < .01

Pearson correlation analyses were conducted to examine the relationships among self-esteem, cognitive distortions, and eating disorder symptoms in adolescents. As shown in Table 2, cognitive distortions were strongly and positively correlated with eating disorder symptoms (r = .580, p < .01), indicating that adolescents with higher levels of cognitive distortions tended to report more severe eating related symptoms. Self-esteem was positively and significantly correlated with both cognitive distortions (r = .248, p < .05) and eating disorder symptoms (r = .241, p < .05). These results suggest a modest association, such that higher self-esteem was slightly associated with increased cognitive distortions and eating symptoms in this sample.

Overall, the strongest relationship was observed between cognitive distortions and eating disorder symptoms, highlighting the important role of maladaptive thinking patterns in the manifestation of eating related concerns among adolescents. The significant but weaker correlations involving self-esteem suggest it may play a more complex or indirect role in relation to cognitive distortions and eating behaviors.

Table 3
Independent Samples t-Test for Gender Differences in Self-Esteem, Cognitive Distortions, and Eating Disorder Symptoms (N = 100)

Variable	Male M(SD)	Female M(SD)	t	p
Self-Esteem	88.41 (9.20)	84.31 (10.18)	-1.91	.051
Cognitive Distortions	115.96 (23.05)	108.60 (27.57)	-1.29	.170
Eating Disorder Symptoms	39.96 (9.38)	39.76 (9.98)	-0.096	.924

Independent samples t-tests were conducted to examine potential gender differences in self-esteem, cognitive distortions, and eating disorder symptoms among adolescents (see Table 3). For self-esteem, males (M = 88.41, SD = 9.20) scored slightly higher than females (M = 84.31, SD = 10.18), with a t-value of -1.91, p = .051. Although this difference approached statistical significance, it did not reach the conventional threshold (p < .05), suggesting that males and females in this sample reported relatively similar levels of self-esteem. Regarding cognitive distortions, males (M = 115.96, SD = 23.05) had slightly higher scores than females (M = 108.60, SD = 27.57), t = -1.29, p = .170.

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This difference was not statistically significant, indicating that maladaptive thinking patterns were comparable across genders. For eating disorder symptoms, males (M = 39.96, SD = 9.38) and females (M = 39.76, SD = 9.98) showed virtually identical scores, t = -0.096, p = .924, demonstrating no gender differences in eating symptoms within this sample.

Overall, the results suggest no significant gender differences in cognitive distortions or eating disorder symptoms, while self-esteem differences between males and females approached significance but were not statistically confirmed.

Table 4

Multiple Regression Analysis Predicting Eating Disorder Symptoms from Self-Esteem and Cognitive Distortions (N = 100)

Predictor	B	SE	β	t	p
Constant	8.47	7.10	—	1.19	.236
Self-Esteem	0.101	0.082	0.103	1.22	.226
Cognitive Distortions	0.205	0.031	0.554	6.54	<.001

Model: $F(2,97) = 25.69$, $p < .001$, $R^2 = 0.346$

A multiple regression analysis was conducted to examine the extent to which cognitive distortions and self-esteem predict eating disorder symptoms among adolescents (see Table 4). The overall regression model was statistically significant, $F(2, 97) = 25.69$, $p < .001$, and accounted for 34.6% of the variance in eating disorder symptoms ($R^2 = .346$), indicating a substantial combined effect of the predictors. Cognitive distortions emerged as a significant positive predictor of eating disorder symptoms ($B = 0.205$, $SE = 0.031$, $\beta = 0.554$, $t = 6.54$, $p < .001$), suggesting that higher levels of cognitive distortions were associated with more severe eating related symptoms. In contrast, self-esteem did not significantly predict eating disorder symptoms when controlling for cognitive distortions ($B = 0.101$, $SE = 0.082$, $\beta = 0.103$, $t = 1.22$, $p = .226$), indicating that self-esteem alone does not contribute meaningfully to the prediction of eating disorder symptoms in this model.

These findings highlight that cognitive distortions play a critical role in eating disorder symptomatology among adolescents, whereas self-esteem may have a less direct or weaker influence when considered alongside maladaptive thinking patterns.

Table 5

Mediation Paths Examining the Indirect Effect of Cognitive Distortions on Eating Disorder Symptoms via Self-Esteem (N = 100)

Path	Predictor	Outcome	B	SE	t	p	95% CI
A	Cognitive Distortions (CD)	Self-Esteem (SE)	0.094	0.037	2.53	.013	0.020, 0.168

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Path	Predictor	Outcome	B	SE	t	p	95% CI
B	Self-Esteem (SE)	Eating Disorder Symptoms (EDE-Q)	0.101	0.083	1.22	.226	-0.063, 0.264
c' (Direct)	Cognitive Distortions (CD)	Eating Disorder Symptoms (EDE-Q)	0.205	0.031	6.54	<.001	0.143, 0.268
c (Total)	Cognitive Distortions (CD)	Eating Disorder Symptoms (EDE-Q)	—	—	—	—	R^2 = .346, F(2, 97) = 25.69, p < .001
Indirect	CD → SE → EDE-Q		—	0.010	—	—	-0.015, 0.035

Note. CD = Cognitive Distortions; SE = Self-Esteem; EDE-Q = Eating Disorder Examination Questionnaire.

A mediation analysis was conducted to examine whether self-esteem mediates the relationship between cognitive distortions and eating disorder symptoms in adolescents. The results indicated that cognitive distortions significantly predicted self-esteem (B = 0.094, SE = 0.037, t = 2.53, p = .013), suggesting that higher levels of cognitive distortions were associated with slightly higher self-esteem in this sample. However, self-esteem did not significantly predict eating disorder symptoms when controlling for cognitive distortions (B = 0.101, SE = 0.083, t = 1.22, p = .226), indicating that self-esteem does not have a meaningful direct effect on eating disorder symptoms in the presence of cognitive distortions. The direct effect of cognitive distortions on eating disorder symptoms remained significant (B = 0.205, SE = 0.031, t = 6.54, p < .001), demonstrating that cognitive distortions are a strong predictor of eating disorder symptoms independently of self-esteem. The indirect effect through self-esteem was small and non-significant (indirect effect = 0.010, 95% CI [-0.015, 0.035]), providing no evidence that self-esteem mediates the relationship between cognitive distortions and eating disorder symptoms. Overall, the model explained 34.6% of the variance in eating disorder symptoms (R^2 = .346, F(2, 97) = 25.69, p < .001), highlighting the substantial role of cognitive distortions in the manifestation of eating disorder symptoms among adolescents. These findings suggest that interventions aimed at reducing eating disorder symptoms in this population may benefit more from targeting cognitive distortions directly rather than focusing on self-esteem as a mediating factor.

Discussion

The present study investigated the relationships among cognitive distortions, self-esteem, and eating disorder symptoms in adolescents, with particular attention to the potential mediating role of self-esteem. Consistent with H1, cognitive distortions were strongly and positively associated with eating disorder symptoms (r = .580, p < .01). This finding aligns with previous literature emphasizing that maladaptive cognitive patterns, such as overgeneralization, catastrophizing, and dichotomous thinking, significantly contribute to the development and maintenance of eating-related psychopathology (Fairburn, Cooper,

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& Shafran, 2003; Covin, Dozois, Ogniewicz, & Seeds, 2011). Adolescents who engage in distorted thinking may interpret body image concerns in an exaggerated or unrealistic manner, thereby increasing vulnerability to disordered eating behaviors.

The second hypothesis proposed that self-esteem would be negatively associated with eating disorder symptoms, such that lower self-esteem corresponds with higher levels of disordered eating. However, the findings of the present study did not support this assumption. Correlational analysis revealed a small but significant positive association between self-esteem and eating disorder symptoms ($r = .241$, $p < .05$), suggesting that higher self-esteem was unexpectedly linked with greater disordered eating tendencies. Furthermore, the regression analysis showed that self-esteem was not a significant predictor of eating disorder symptoms ($\beta = 0.103$, $p = .226$), and the mediation analysis indicated that self-esteem did not mediate the relationship between cognitive distortions and eating pathology. These results contrast with previous literature which consistently documents an inverse relationship, where low self-esteem is considered a key vulnerability factor for the development and maintenance of eating disorders (Fairburn et al., 2003; Fennig et al., 2008; Zeigler-Hill, 2011). One possible explanation for this divergence may lie in cultural and contextual differences. In collectivistic societies, self-esteem may function differently, being more closely tied to external validation and social comparison (Heine et al., 1999; Cai et al., 2007). Thus, adolescents with higher self-esteem in such contexts might still experience elevated pressure to conform to societal ideals of thinness, which paradoxically increases their risk of disordered eating. Alternatively, the positive association could be due to measurement or sample-specific characteristics, such as defensive or inflated self-esteem masking underlying vulnerabilities (Kernis, 2003). Another methodological explanation may be that the Rosenberg Self-Esteem Scale primarily measures global self-esteem and may not differentiate between secure and defensive forms of self-esteem. Thus, adolescents scoring high may still rely on external contingencies of worth, which can coexist with maladaptive cognitions and eating-related concerns (Kernis, 2003; Jordan et al., 2003). Taken together, while the current findings diverge from much of the Western evidence base, they highlight the importance of considering cultural nuances in the self-esteem–eating disorder linkage.

The third hypothesis predicted that self-esteem would be negatively associated with cognitive distortions, such that lower self-esteem corresponds with greater levels of distorted thinking. The findings of the current study partially supported this hypothesis. Contrary to the expected negative association, the correlation analysis demonstrated a small but significant positive relationship between self-esteem and cognitive distortions ($r = .248$, $p < .05$). This suggests that higher levels of self-esteem were unexpectedly related to greater cognitive distortions. While this finding diverges from much of the existing literature, which generally identifies low self-esteem as a precursor to maladaptive cognitions and dysfunctional thinking patterns (Beck, 1976; Fennell, 1997; Smith & Greenberg, 1981), it may reflect unique cultural and developmental factors within the present sample. For example, research indicates that in collectivistic contexts, self-esteem may be more contingent upon external sources such as social approval, academic success, or adherence to cultural norms (Heine et al., 1999; Cai et al., 2007). As a result, adolescents who report relatively higher self-esteem may still engage in maladaptive comparisons or rigid cognitive schemas that sustain distorted thinking. Another explanation may lie in the construct of defensive or fragile self-esteem, where individuals present an outward sense of self-esteem that coexists with underlying insecurity, making them more vulnerable to biased information processing (Kernis, 2003;

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Jordan et al., 2003). Taken together, these findings underscore the complexity of the self-esteem, cognition link and suggest that self-esteem, particularly when inflated or contingent, does not necessarily function as a protective factor against cognitive distortions. Instead, it may interact with cultural and personality factors in shaping how individuals interpret and respond to experiences.

The multiple regression analysis partially supported H4, as cognitive distortions significantly predicted eating disorder symptoms ($\beta = 0.554$, $p < .001$), whereas self-esteem did not ($\beta = 0.103$, $p = .226$). Collectively, the model explained 34.6% of the variance in eating disorder symptoms, highlighting the critical role of cognitive distortions in this population. These results reinforce cognitive-behavioral models of eating disorders, which posit that dysfunctional thinking patterns regarding body image, weight, and self-esteem are central mechanisms driving eating pathology (Beck, 1976; Fairburn et al., 2003).

Gender differences according to H5 were not statistically significant for self-esteem, cognitive distortions, or eating disorder symptoms, although males showed slightly higher self-esteem scores that approached significance ($p = .051$). This pattern may reflect sample characteristics, cultural factors, or small male representation (31%) in the sample, limiting the ability to detect gender effects. These findings are in partial agreement with research suggesting that gender differences in eating disorder prevalence are more pronounced in clinical populations than in community samples (Stice, 2002).

Finally, the mediation analysis indicated that self-esteem did not mediate the relationship between cognitive distortions and eating disorder symptoms. Cognitive distortions significantly predicted self-esteem ($B = 0.094$, $p = .013$), but self-esteem was not a significant predictor of eating disorder symptoms ($B = 0.101$, $p = .226$), and the indirect effect was non-significant ($B = 0.010$, 95% CI [-0.015, 0.035]). These results suggest that interventions targeting cognitive distortions directly may be more effective in reducing eating disorder symptoms than approaches focusing solely on enhancing self-esteem, consistent with cognitive-behavioral intervention frameworks (Fairburn et al., 2003; Covin et al., 2011).

Limitations and Future Directions

Despite providing valuable insights into the relationships among cognitive distortions, self-esteem, and eating disorder symptoms, this study had several limitations. First, the cross-sectional correlational design precludes any causal inferences; the observed associations indicate relationships but cannot determine temporal or directional effects (Cohen et al., 2003; Field, 2018). Second, the sample was predominantly urban and female, which may limit the generalizability of the findings to male adolescents or those from rural areas. Third, the study focused on a non-clinical population, restricting its applicability to adolescents with diagnosed eating disorders.

Future research should consider longitudinal designs to examine causal and developmental trajectories of cognitive distortions, self-esteem, and eating pathology. Including clinical populations and more diverse samples would enhance generalizability. Additionally, exploring other potential mediators, such as perfectionism, peer influence, and body dissatisfaction, may provide a more comprehensive understanding of mechanisms underlying eating disorder symptoms. Finally, further cultural adaptation and validation of self-esteem and cognitive distortion measures in non-Western adolescent populations could clarify the role of these constructs across diverse cultural contexts.

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Conclusion

Overall, this study highlights the pivotal role of cognitive distortions in predicting eating disorder symptoms in adolescents and underscores the limited mediating role of self-esteem. These findings have practical implications for early intervention and prevention strategies, emphasizing cognitive restructuring techniques in adolescent mental health programs.

Implications

The present findings highlight the critical role of cognitive distortions in predicting eating disorder symptoms among adolescents, supporting cognitive behavioral models of psychopathology (Beck, 1976; Fairburn, Cooper, & Shafran, 2003). While self-esteem was related to both cognitive distortions and eating symptoms, it did not mediate this relationship, suggesting interventions should primarily target maladaptive thinking patterns rather than self-esteem alone.

Clinically, these results reinforce the utility of cognitive behavioral interventions focusing on restructuring distorted thoughts about body image and eating behaviors (Fairburn et al., 2003; Wilson, Wilfley, Agras, & Bryson, 2010). Preventive programs in schools and communities can incorporate cognitive skill building and media literacy to reduce susceptibility to eating disorders (Levine & Murnen, 2009; Stice & Shaw, 2002). Policy wise, integrating evidence based cognitive behavioral strategies into adolescent mental health programs could enhance early prevention and intervention efforts, improving overall psychological well-being (Stice, Marti, & Rohde, 2013).

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