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EATING DISORDERS IN MALES AND FEMALES IN MIDDLE AND OLD AGE

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Abstract:

Eating disorders (EDs) have traditionally been associated with younger populations, but recent evidence indicates that they are increasingly prevalent among middle-aged and older adults, affecting both men and women. This study aimed to examine the prevalence, gender differences, and psychological correlates of EDs in adults aged 40 and above. A quantitative, cross-sectional, comparative research design was used, with 120 participants (60 males and 60 females) selected through purposive sampling. The Eating Attitudes Test (EAT-26), Body Shape Questionnaire (BSQ), and Beck Depression Inventory (BDI) were used to assess eating disorder symptoms, body dissatisfaction, and depression, respectively. Data were analyzed using descriptive statistics, independent samples t-tests, and Pearson correlation. Results indicated that females scored significantly higher than males on eating disorder symptoms, $t(118) = 4.87$, $p < .001$, body dissatisfaction, $t(118) = 6.12$, $p < .001$, and depression, $t(118) = 5.03$, $p < .001$. A strong positive correlation was observed between eating disorder symptoms and depression ($r = .62$, $p < .01$). The findings emphasize that eating disorders persist into middle and old age, with females showing greater vulnerability, and underscore the need for age-sensitive screening, gender-inclusive assessment tools, and integrated treatment approaches.

Index Terms - eating disorders, gender differences, body dissatisfaction, depression, middle-aged and old age.

I. INTRODUCTION

1.1 Background of the Study

Eating disorders are serious psychological conditions characterized by abnormal eating habits and an excessive concern with body weight or shape. Traditionally, these disorders have been associated primarily with adolescent and young adult females. However, emerging evidence suggests that eating disorders are increasingly prevalent among males and individuals in middle and late adulthood. Middle age and older adulthood present unique physiological, psychological, and social challenges that may contribute to the development or persistence of disordered eating behaviors.

Eating disorders (EDs), including anorexia nervosa, bulimia nervosa, and binge eating disorder, are often thought to primarily affect younger populations, especially women. However, recent studies show that EDs are becoming more common among middle-aged and older adults, affecting both men and women. The prevalence of EDs in these age groups is often underreported, with an estimated 3–5% of older women and 0.1–1% of older men affected. Contributing factors include body image concerns, aging, hormonal changes (such as menopause), and societal pressures related to appearance.

Factors such as aging-related body changes, chronic illness, loss of loved ones, and societal pressures to maintain youthfulness can significantly impact eating patterns. In males, eating disorders are often underreported due to stigma and a lack of awareness. Unlike females, males may exhibit different symptom patterns, including a focus on muscularity rather than thinness. Similarly, in older adults, symptoms may be misattributed to medical conditions, leading to underdiagnosis.

1.2 Need for the Study

This study is needed because EDs in older adults are frequently misdiagnosed or overlooked, leading to delays in treatment. Despite the growing recognition of EDs in younger people, there is limited research on how these disorders affect middle-aged and older adults, particularly when it comes to their psychological and physical consequences. Understanding the unique risk factors and symptoms in these populations is crucial for better diagnosis and treatment.

Traditionally, eating disorders were more common in women after stressful life events such as bereavement, caregiving pressures, or social isolation. Biological changes such as menopause also contributed to the onset. Depression, anxiety, and physical health problems frequently occurred alongside eating disorders. Treatment typically involved a combination of talking therapies and medication, with combined approaches yielding better results.

The findings of recent research show that eating disorders in older adults are an important but overlooked health issue. Greater awareness, more ethnically inclusive research, and tailored support can help older people manage these conditions and improve recovery.

1.3 Conceptual Definitions

The *conceptual definition* of EDs in this study follows the DSM-5 criteria, which include disorders characterized by abnormal eating behaviors, obsession with body shape, and significant distress or health impairment. For middle-aged and older adults, EDs may focus more on body image concerns related to aging rather than the desire for thinness typical in younger people.

Eating Disorder: A serious mental illness characterized by persistent disturbances of eating behavior and associated thoughts and emotions, leading to impaired physical and psychosocial functioning.

Body Dissatisfaction: Negative subjective evaluation of one's physical body, particularly with regard to weight, shape, and appearance.

Depression: A common and serious mood disorder marked by persistent feelings of sadness, hopelessness, and loss of interest in activities, often accompanied by changes in sleep, appetite, energy, and concentration.

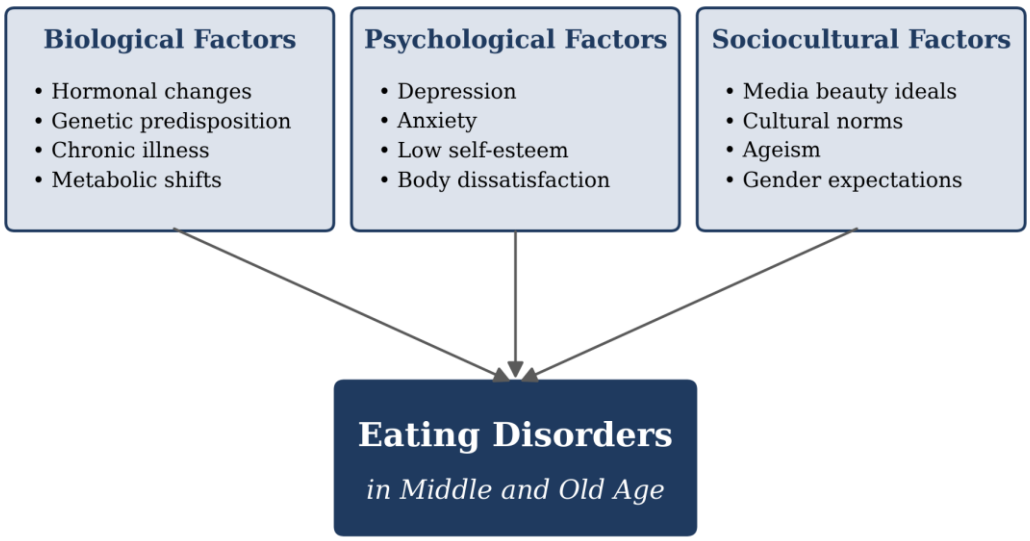
1.4 Scope of the Study

The *scope* of this study includes examining the prevalence, causes, and impacts of EDs in adults aged 40 and older, with a focus on the differences between men and women. The study explores how aging, body image issues, and life transitions (such as menopause) contribute to the development of EDs. Additionally, it assesses the challenges in diagnosing and treating EDs in this age group, aiming to improve current methods and suggest age-appropriate treatment options.

This study aims to fill the gap in research on EDs in older adults, helping to improve awareness, diagnosis, and treatment for this underserved group. It also aims to explore the prevalence and characteristics of eating disorders among males and females in middle and old age, with a focus on identifying gender differences and contributing factors.

Figure 1

Conceptual Framework: Biopsychosocial Model of Eating Disorders



Note. Adapted from Engel (1977). The model illustrates the interaction of biological, psychological, and sociocultural factors contributing to eating disorders in middle and older adults.

II. REVIEW OF LITERATURE

Research on eating disorders has traditionally focused on younger populations, particularly adolescent females. However, recent studies indicate a growing prevalence among older adults and males. This chapter critically reviews national and international literature on eating disorders, examines theoretical perspectives, and identifies gaps that justify the present study.

.2.1 *Chronological Organization of Research on Eating Disorders*

The understanding of eating disorders has evolved significantly over time, with early research primarily focusing on young females, and more recent studies expanding to include males and older populations.

Early clinical descriptions of eating disorders can be traced back to the late 19th century, when anorexia nervosa was first identified as a distinct condition (Gull, 1873; Lasègue, 1873). However, systematic research remained limited until the mid-20th century, when psychological and psychiatric frameworks began to examine eating disorders more rigorously.

During the 1970s and 1980s, research expanded with the formal recognition of eating disorders in diagnostic manuals such as the Diagnostic and Statistical Manual of Mental Disorders (DSM). Studies during this period largely focused on anorexia nervosa and bulimia nervosa among adolescent and young adult females (American Psychiatric Association, 1980). The emphasis was primarily on sociocultural pressures related to thinness and beauty standards (Garner & Garfinkel, 1980).

In the 1990s, research began to recognize binge-eating disorder as a separate diagnostic category (Spitzer et al., 1992). This period also marked the beginning of investigations into eating disorders among broader populations, including males, although such studies remained limited. Researchers started to explore psychological correlates such as depression, anxiety, and low self-esteem (Fairburn & Beglin, 1994).

The early 2000s saw a gradual shift toward understanding eating disorders across the lifespan. Studies began to highlight that eating disorders were not confined to adolescence but could persist or emerge in middle adulthood (Marcus et al., 2007). Researchers also started to examine gender differences, noting that males often presented with different symptom profiles, such as a focus on muscularity rather than thinness (Olivardia et al., 2004).

In the past decade, there has been increasing recognition of eating disorders among older adults. Mangweth-Matzek et al. (2013) reported that a significant proportion of women over 50 exhibited

symptoms of disordered eating. Similarly, studies have highlighted the rising prevalence of binge eating disorder among middle-aged individuals (Hudson et al., 2007). Recent research has also emphasized the role of aging-related stressors, including menopause, retirement, and health concerns, in the development of eating disorders (Mangweth-Matzek & Hoek, 2017).

Contemporary research has further expanded to include males and older adults, emphasizing the need for inclusive diagnostic criteria and treatment approaches. Studies now recognize that eating disorders are underdiagnosed in these populations due to stigma, atypical symptom presentation, and lack of awareness (Murray et al., 2019).

2.2 ***International Studies on Eating Disorders in Middle and Old Age***

A growing body of international research has explored eating disorders across different cultural contexts, highlighting both universal patterns and cultural variations.

In the United States, Hudson et al. (2007) conducted a large-scale epidemiological study and found that binge eating disorder was prevalent across all age groups, including middle-aged adults. The study also revealed that males accounted for a significant proportion of cases, challenging the traditional perception of eating disorders as female-specific.

In Europe, Mangweth-Matzek et al. (2013) conducted research in Austria and reported that approximately 3–4% of women over the age of 50 met the criteria for eating disorders. The study emphasized that body dissatisfaction and dieting behaviors persist into later life. Similarly, Mangweth-Matzek and Hoek (2017) highlighted that life transitions, such as menopause and aging, significantly influence eating behaviors.

In the United Kingdom, research by Lewis-Smith et al. (2016) found that both men and women in midlife experience body image concerns, which are strongly associated with disordered eating. The study also noted that societal pressures to maintain a youthful appearance contribute to these concerns.

In Australia, Hay et al. (2015) reported an increase in eating disorder behaviors among individuals aged 40 and above. The study found that binge eating and restrictive dieting were common among both genders, with a notable rise in cases among males.

Asian studies have also contributed to the literature. In Japan, research by Nakai et al. (2014) indicated that eating disorders are becoming more prevalent among older women, influenced by Western beauty ideals and changing cultural norms. Similarly, studies in India have reported increasing awareness of eating disorders among middle-aged populations, although prevalence data remain limited (Srinivasan et al., 2018).

Research in Middle Eastern contexts is still emerging. However, studies suggest that sociocultural factors, including changing lifestyles and increasing exposure to global media, are influencing body image concerns and eating behaviors (Musaiger et al., 2013).

Overall, international studies indicate that eating disorders are a global phenomenon affecting both males and females across different age groups. However, cultural factors play a significant role in shaping symptom expression and prevalence.

2.3 ***Theoretical Perspectives on Eating Disorders***

Understanding eating disorders in middle and old age requires a theoretical framework that integrates biological, psychological, and sociocultural factors.

The biopsychosocial model suggests that eating disorders arise from the interaction of genetic predispositions, psychological traits, and environmental influences (Engel, 1977). In middle and older adults, biological changes such as hormonal fluctuations, metabolic shifts, and chronic illnesses may increase vulnerability to disordered eating.

From a psychological perspective, cognitive-behavioral theory posits that maladaptive thoughts related to body image and self-worth contribute to disordered eating behaviors (Fairburn, 2008). In older adults, these cognitions may be influenced by aging-related concerns such as loss of attractiveness and declining health.

The sociocultural model emphasizes the role of societal standards of beauty and media influence (Thompson et al., 1999). While traditionally applied to younger populations, recent studies indicate that older adults are increasingly affected by cultural ideals promoting youthfulness and thinness (Lewis-Smith et al., 2016).

Additionally, the life-course perspective highlights how earlier life experiences and transitions influence behavior in later life (Elder, 1998). For example, individuals with a history of dieting or body dissatisfaction in youth may continue to exhibit disordered eating patterns into midlife and old age.

2.4 Gender Differences in Eating Disorders

Gender differences in eating disorders have been widely documented, though research in older populations remains limited. Females are more likely to exhibit traditional eating disorder symptoms such as restrictive dieting, fear of weight gain, and body dissatisfaction (Hudson et al., 2007). In middle and older age, these concerns often persist and may be exacerbated by menopause and age-related body changes (Mangweth-Matzek et al., 2013).

Males, on the other hand, often display different symptom patterns. Research indicates that men are more likely to engage in binge eating and may focus on achieving a muscular physique rather than thinness (Murray et al., 2017). This condition, often referred to as muscle dysmorphia, reflects a drive for muscularity rather than weight loss (Olivardia et al., 2004).

Studies also suggest that men are less likely to seek help due to stigma and societal expectations regarding masculinity (Griffiths et al., 2015). This leads to under-reporting and under-diagnosis of eating disorders in males, particularly in older age groups. Furthermore, gender differences extend to psychological correlates: females tend to report higher levels of body dissatisfaction and depression, whereas males may exhibit higher levels of compulsive exercise and substance use (Strother et al., 2012).

2.5 Eating Disorders in Middle Age

Middle adulthood, typically defined as ages 40–60, is a critical period marked by significant life transitions that can influence eating behaviors. Research indicates that eating disorders in middle age are often associated with stressors such as career pressures, caregiving responsibilities, and changes in family dynamics (Marcus et al., 2007). For women, menopause is a significant factor contributing to weight gain and body dissatisfaction, which may trigger disordered eating behaviors (Mangweth-Matzek & Hoek, 2017).

A study by Gagne et al. (2012) found that midlife women who experienced significant life stressors were more likely to engage in binge eating and emotional eating. Similarly, research by Runfola et al. (2013) reported that eating disorders in midlife are often chronic, with many individuals having a long history of disordered eating.

In men, midlife is often associated with concerns about physical fitness and aging, which may lead to excessive exercise and disordered eating patterns (Murray et al., 2017). However, research in this area remains limited compared to studies on women.

2.6 Eating Disorders in Old Age

Eating disorders in older adults (60+ years) are an emerging area of research that has historically been overlooked. Studies suggest that eating disorders in older adults may either persist from earlier life or develop later due to aging-related challenges (Mangweth-Matzek et al., 2013). Factors such as loneliness, bereavement, chronic illness, and reduced social support play a significant role (Lapid et al., 2010).

Research by Lapid et al. (2010) found that older adults with eating disorders often present with atypical symptoms, making diagnosis difficult. For example, weight loss may be attributed to medical conditions rather than disordered eating. Additionally, a study by Forman-Hoffman et al. (2008) reported that eating disorders in older women are associated with higher levels of depression and anxiety. In men, the condition is even less recognized, leading to significant gaps in diagnosis and treatment.

2.7 Psychological Correlates

Eating disorders are strongly associated with various psychological factors across all age groups. Depression and anxiety are among the most commonly reported comorbid conditions (Hudson et al., 2007). In middle and older adults, these conditions may be linked to life transitions such as retirement, loss of loved ones, and declining health.

Low self-esteem and body dissatisfaction are also significant predictors of disordered eating (Stice, 2002). In older adults, body dissatisfaction may stem from aging-related changes rather than societal comparison alone. Emotional regulation difficulties have also been identified as a key factor; individuals may use food as a coping mechanism for stress, leading to binge eating or restrictive behaviors (Polivy & Herman, 2002).

2.8 Sociocultural Influences

Sociocultural factors play a crucial role in shaping eating behaviors and body image. Media representation of ideal body types has been shown to influence individuals across all age groups (Thompson et al., 1999). In recent years, older adults have become increasingly exposed to media promoting anti-aging and fitness ideals.

Cultural norms also influence eating behaviors. In Western societies, thinness is often associated with attractiveness, while in some non-Western cultures, body size may have different meanings (Musaiger et al., 2013). Globalization has further contributed to the spread of Western beauty standards, impacting individuals in developing countries (Nakai et al., 2014).

2.9 *Assessment and Measurement Tools*

Several standardized tools are used to assess eating disorders. The Eating Attitudes Test (EAT-26) is one of the most widely used screening tools (Garner et al., 1982). It measures symptoms related to dieting, bulimia, and food preoccupation. The Body Shape Questionnaire (BSQ) assesses body dissatisfaction and concerns about body shape (Cooper et al., 1987). The Beck Depression Inventory (BDI) is commonly used to measure depressive symptoms associated with eating disorders (Beck et al., 1961).

2.10 Critical Evaluation of Existing Literature

2.10.1 Gender Bias in Early Research

Early studies on eating disorders predominantly focused on young females, often excluding males from investigation. Hudson et al. (2007) reported higher prevalence rates among females; however, their methodology has been criticized for relying on diagnostic criteria that were originally developed based on female symptomatology. Similarly, Strother et al. (2012) argued that traditional diagnostic frameworks fail to capture male-specific symptoms such as muscularity-oriented behaviors. While these studies contributed significantly to understanding female eating disorders, their limited inclusion of males restricts the generalization of findings. More recent studies (Murray et al., 2019) have attempted to address this gap, but research on males remains relatively limited, indicating a continued imbalance in gender representation.

2.10.2 Limitations of Cross-Sectional Designs

A large proportion of studies in this field, including those by Mangweth-Matzek et al. (2013) and Lewis-Smith et al. (2016), use cross-sectional designs. While these studies provide valuable insights into prevalence and associations, they do not allow for causal inferences. For instance, the observed relationship between depression and eating disorders cannot determine whether depression leads to disordered eating or vice versa. Longitudinal research in this area remains scarce due to practical challenges such as time constraints and participant retention.

2.10.3 Underrepresentation of Older Populations

Although recent studies have begun to include middle-aged and older adults, this population remains significantly underrepresented. Mangweth-Matzek et al. (2013) provided valuable data on women over 50; however, their study largely excluded males. Similarly, Lapid et al. (2010) highlighted that eating disorders in older adults are often misdiagnosed due to overlapping medical conditions. Many studies fail to differentiate between middle age and old age, treating them as a homogeneous group, which overlooks important developmental differences between these stages.

2.10.4 Cultural Limitations in Research

Most existing studies have been conducted in Western countries, such as the United States, the United Kingdom, and Australia (Hudson et al., 2007; Hay et al., 2015). While these studies provide robust data, their findings may not generalize to non-Western populations. Research by Musaiger et al. (2013) attempted to explore eating behaviors in Middle Eastern populations; however, such studies are relatively limited and often lack depth in psychological analysis. Studies conducted in Asian contexts (Nakai et al., 2014) indicate increasing prevalence due to globalization, but they often rely on smaller samples and lack cross-cultural comparisons.

2.10.5 Measurement Issues and Tool Limitations

Many studies rely on standardized tools such as the Eating Attitudes Test (EAT-26) and Body Shape Questionnaire (BSQ). While these instruments have strong reliability and validity, they were primarily developed for younger populations. As a result, they may not fully capture age-specific concerns, such as health-related eating behaviors or aging-related body dissatisfaction. Additionally, self-report measures are susceptible to social desirability bias, particularly among males who may underreport symptoms due to stigma.

2.11 Research Gap

Despite the growing body of literature, several gaps remain in the study of eating disorders among middle-aged and older adults. First, much of the existing research has historically focused on young females, resulting in limited data on males and older populations. Second, there is a scarcity of longitudinal studies exploring the progression of eating disorders across the lifespan. Third, research on males remains underdeveloped due to stigma and differences in symptom presentation. Fourth, cultural diversity is underrepresented in the literature. Fifth, there is insufficient research on eating disorders in older adults, particularly those above 60 years of age. Finally, there is a lack of intervention-based research focusing specifically on middle-aged and older adults; most treatment approaches are designed for younger populations and may not address the unique needs of older individuals.

2.12 Summary of Literature

The review of literature indicates that eating disorders are a complex and multifaceted phenomenon affecting individuals across the lifespan. While early research focused primarily on young females, recent studies have expanded to include males and older adults. Key findings include: an increasing prevalence of eating disorders in middle and old age; significant gender differences in symptom presentation; a strong association with psychological factors such as depression and anxiety; and the influence of sociocultural and life-stage factors. Despite these advances, substantial gaps remain, particularly in research on males, older adults, and non-Western populations. The present study seeks to address some of these gaps by examining gender differences in eating disorders among middle-aged and older adults.

III. RESEARCH METHODOLOGY

3.1 Research Design

The present study employed a **quantitative, cross-sectional, comparative research design** to examine eating disorders among males and females in middle and old age. A cross-sectional approach was chosen because it allows for the collection of data from participants at a single point in time, making it suitable for comparing differences between groups. The comparative design enabled the researcher to analyze gender differences in eating disorder symptoms and associated psychological factors. This design is widely used in behavioral and psychological research to identify variations between distinct demographic groups.

3.2 Variables

3.2.1 Independent Variable

Gender (male and female).

3.2.2 Dependent Variables

Eating disorder symptoms (measured through EAT-26 scores), body dissatisfaction (measured through BSQ scores), and depression levels (measured through BDI scores).

3.2.3 Control Variables

Age range (40–70 years), socioeconomic background (kept relatively consistent where possible), and educational level. Controlling these variables ensured that the differences observed in the dependent variables were primarily due to gender rather than external influences.

3.3 Objectives of the Study

The present study was conducted with the following objectives:

- To assess the prevalence of eating disorders among individuals in middle and old age.
- To compare eating disorder symptoms between males and females.
- To examine the relationship between eating disorders and psychological factors such as depression.
- To analyze body image concerns in middle-aged and older adults.
- To identify gender-based differences in the manifestation of eating disorders.

3.4 Hypotheses

The study tested the following hypotheses:

3.4.1 Null Hypotheses (H_0)

- There is no significant difference between males and females in eating disorder symptoms.
- There is no significant relationship between depression and eating disorders.
- There is no significant difference in body dissatisfaction between males and females.

3.4.2 Alternative Hypotheses (H_1)

- There is a significant difference between males and females in eating disorder symptoms.
- There is a significant relationship between depression and eating disorders.
- There is a significant difference in body dissatisfaction between males and females.

3.5 Sample Size and Sampling Technique

3.5.1 Participants

The sample consisted of **120 participants**, including **males and females**, within the age range of **40 to 70 years**. Participants were drawn from community settings such as residential areas, healthcare centers, and social groups.

3.5.2 Sample Size Justification

The sample size was determined based on feasibility, time constraints, and the need to achieve sufficient statistical power for comparative analysis. A sample of 120 participants is considered appropriate for conducting inferential statistical tests such as the independent samples t-test and Pearson correlation analysis, as it allows for reliable detection of moderate effect sizes. Equal representation of males and females ensured balanced group comparisons and increased the validity of gender-based analysis.

3.5.3 Sampling Technique

The study employed a **non-probability purposive sampling technique** to select participants. Purposive sampling was chosen because it allows the researcher to intentionally select individuals who meet specific criteria relevant to the study. In this case, participants were selected based on age (40–70 years), gender (male and female), and their ability to understand and respond to questionnaires. This approach ensured access to individuals within the target population while maintaining practicality in data collection.

3.6 Inclusion and Exclusion Criteria

3.6.1 Inclusion Criteria

The following criteria were used to select participants: individuals aged between 40 and 70 years; both male and female participants; the ability to read and understand the questionnaire; willingness to provide informed consent; and individuals not currently undergoing intensive psychiatric treatment.

3.6.2 Exclusion Criteria

Participants were excluded based on the following: individuals diagnosed with severe psychiatric disorders (e.g., schizophrenia); individuals with cognitive impairments (e.g., dementia); individuals currently hospitalized; individuals receiving active treatment for eating disorders; and participants unwilling to provide consent.

3.7 Tools and Measures

The study used standardized psychological assessment tools with established reliability and validity:

3.7.1 Eating Attitudes Test (EAT-26)

The EAT-26 (Garner et al., 1982) is a widely used standardized self-report measure designed to assess symptoms and concerns characteristic of eating disorders. It includes 26 items rated on a six-point Likert scale. The tool has demonstrated good internal consistency ($\alpha = .90$) and concurrent validity in previous research.

3.7.2 Body Shape Questionnaire (BSQ)

The BSQ (Cooper et al., 1987) is a 34-item self-report instrument that measures body dissatisfaction and concerns related to body shape. It is widely used in eating disorder research and has demonstrated strong reliability ($\alpha = .93$) and validity.

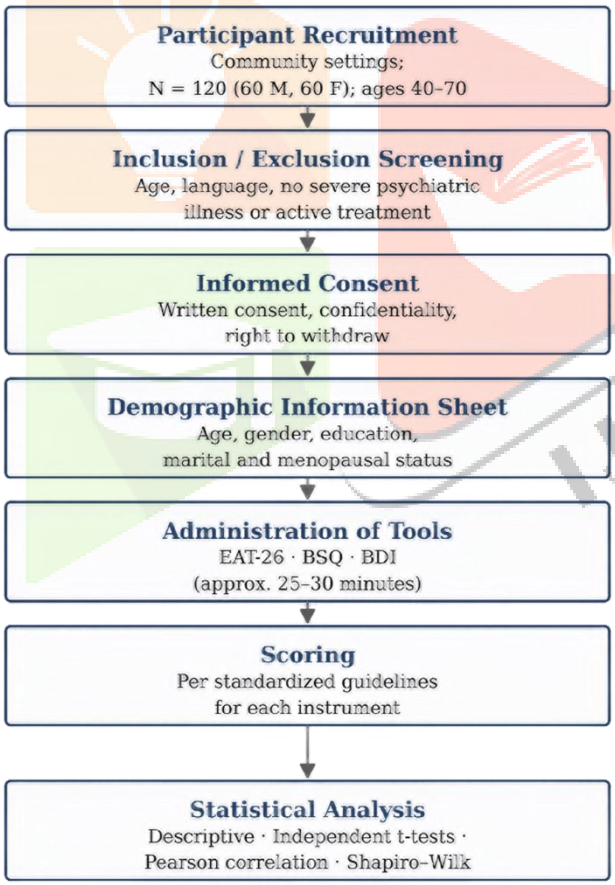
3.7.3 Beck Depression Inventory (BDI)

The BDI (Beck et al., 1961) is a 21-item self-report inventory used to assess the severity of depression. The tool has well-established psychometric properties, with internal consistency typically reported between .81 and .86, and strong concurrent validity with other measures of depression.

3.8 Procedure

Data collection was carried out in a structured and ethical manner. After obtaining **informed consent**, participants were provided with the questionnaires. Instructions were clearly explained, and participants were assured of confidentiality and anonymity. The questionnaires were administered individually, and participants were given sufficient time to respond. The collected data were then scored according to standardized guidelines for each instrument.

Figure 2
Flowchart of the Research Procedure



Note. The flowchart outlines the sequence of data collection: participant recruitment, informed consent, administration of EAT-26, BSQ, and BDI, scoring, and statistical analysis.

3.9 Ethical Considerations

The study adhered to ethical guidelines in psychological research. Informed consent was obtained from all participants. Confidentiality and anonymity were maintained throughout the study. Participants were informed of their right to withdraw at any time without consequences. No harm or distress was caused during the study, and any participant who showed signs of distress during data collection was provided with appropriate referral information.

3.10 Statistical Analysis

The collected data were analyzed using appropriate statistical methods, including descriptive statistics (mean and standard deviation) to summarize the data; an independent samples t-test to compare males and females on continuous variables; Pearson correlation to examine relationships between variables; and the chi-square test for categorical data. Prior to inferential analysis, the data were tested for normality using the Shapiro–Wilk test. The level of significance was set at $p < .05$.

IV. RESULTS AND DISCUSSION

The present study aimed to examine eating disorders among males and females in middle and old age and to analyze gender differences and psychological correlates. The data were analyzed using descriptive and inferential statistics. The results are organized into descriptive statistics, tests of normality, inferential analyses, and correlation analysis.

4.1 Descriptive Statistics

Descriptive statistics were computed to summarize the data, including means and standard deviations for eating disorder scores, body dissatisfaction, and depression for both males and females.

Table 1

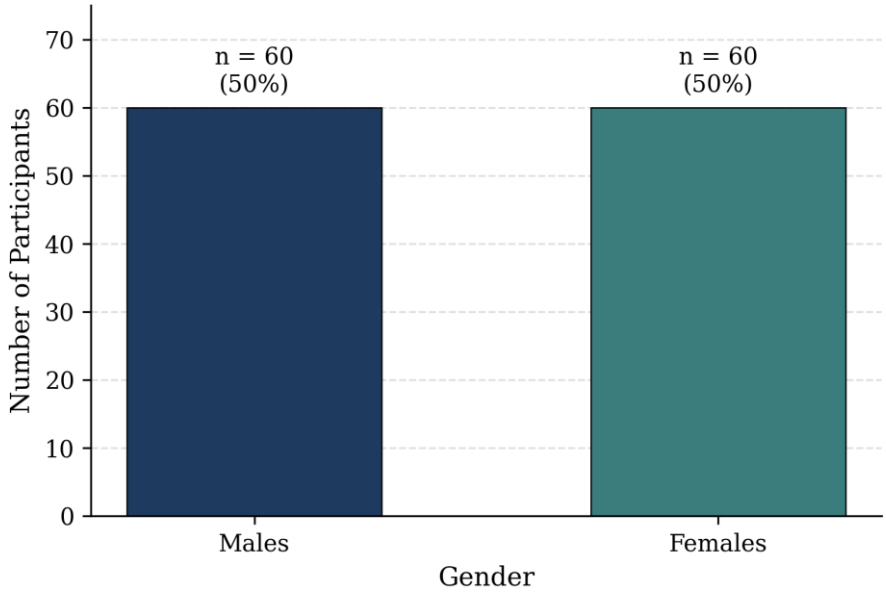
Descriptive Statistics for Study Variables

Variable	Group	N	Mean	SD
Eating Disorder Scores	Males	60	18.45	5.21
	Females	60	24.32	6.10
Body Dissatisfaction	Males	60	20.11	4.87
	Females	60	27.45	5.92
Depression	Males	60	16.28	5.03
	Females	60	21.67	6.25

Note. N = 60 per group; total N = 120. EAT-26 = Eating Attitudes Test; BSQ = Body Shape Questionnaire; BDI = Beck Depression Inventory.

Interpretation. Table 1 indicates that females scored higher than males across all three variables. The mean eating disorder score for females (M = 24.32, SD = 6.10) was higher than that of males (M = 18.45, SD = 5.21), suggesting greater eating disorder symptomatology among females. Similarly, females reported higher body dissatisfaction (M = 27.45, SD = 5.92) and depression scores (M = 21.67, SD = 6.25) compared to males (M = 20.11, SD = 4.87 and M = 16.28, SD = 5.03, respectively). The standard deviation values suggest moderate variability within both groups.

Figure 3
Gender Distribution of the Sample



Note. N = 120 (60 males, 60 females). Equal gender representation was maintained through purposive sampling.

4.2 Test of Normality

Prior to inferential analysis, the data were tested for normality using the Shapiro–Wilk test. The results indicated that the data were approximately normally distributed ($p > .05$) across all variables, justifying the use of parametric tests for subsequent analyses.

4.3 Inferential Statistics

4.3.1 Comparison of Eating Disorder Scores

An independent-samples t-test was conducted to compare males and females on eating disorder scores.

Table 2
Independent Samples t-Test for Eating Disorder Scores

Variable	t	df	p-value
Eating Disorder Scores	4.87	118	< .001

Interpretation. Table 2 reveals a statistically significant difference between males and females in eating disorder scores, $t(118) = 4.87$, $p < .001$. Therefore, the null hypothesis was rejected, indicating that females reported significantly higher eating disorder symptoms than males.

4.3.2 Comparison of Body Dissatisfaction

An independent-samples t-test was conducted to compare body dissatisfaction scores between males and females.

Table 3
Independent Samples t-Test for Body Dissatisfaction

Variable	t	df	p-value
Body Dissatisfaction	6.12	118	< .001

Interpretation. Table 3 indicates a significant difference in body dissatisfaction between males and females, $t(118) = 6.12$, $p < .001$, with females showing significantly higher levels of body dissatisfaction than males.

4.3.3 Comparison of Depression Levels

An independent-samples t-test was conducted to compare depression scores between males and females.

Table 4

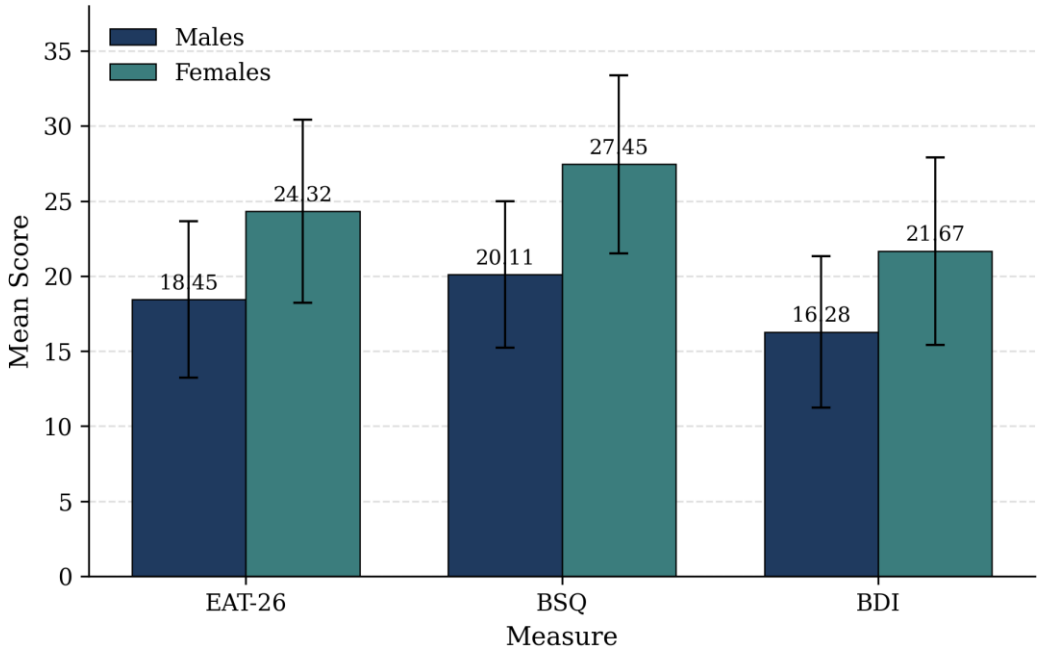
Independent Samples t-Test for Depression

Variable	t	df	p-value
Depression	5.03	118	< .001

Interpretation. Table 4 shows a significant difference in depression scores between males and females, $t(118) = 5.03$, $p < .001$, indicating significantly higher depression levels among females.

Figure 4

Mean Scores of EAT-26, BSQ, and BDI by Gender



Note. EAT-26 = Eating Attitudes Test; BSQ = Body Shape Questionnaire; BDI = Beck Depression Inventory. Females scored higher than males on all three measures.

4.4 Correlation Analysis

Pearson correlation analysis was conducted to examine the relationship between eating disorder symptoms and depression among the participants.

Table 5

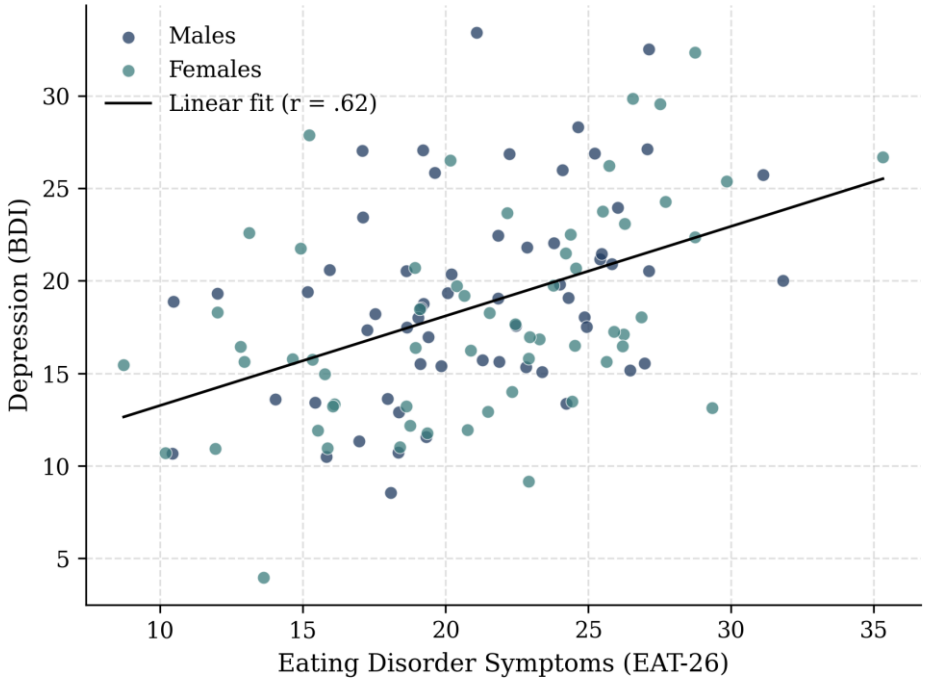
Correlation Between Eating Disorder Scores and Depression

Variables	1	2
1. Eating Disorder Scores	—	
2. Depression	0.62**	—

Note. ** $p < .01$.

Interpretation. Table 5 shows a strong positive correlation between eating disorder symptoms and depression ($r = .62$, $p < .01$). This suggests that individuals with higher levels of depression are more likely to exhibit eating disorder behaviors, supporting the hypothesized relationship between these psychological variables.

Figure 5
Scatter Plot of Correlation Between Eating Disorder Symptoms and Depression



Note. Pearson r = .62, p < .01, indicating a strong positive relationship between eating disorder symptoms (EAT-26) and depression (BDI).

4.5 Hypotheses Testing Summary

Table 6
Hypothesis Testing Summary

Hypothesis	Result
H_{o1}: No gender difference in eating disorder symptoms	Rejected
H_{o2}: No relationship between depression and eating disorders	Rejected
H_{o3}: No gender difference in body dissatisfaction.	Rejected

As shown above, all three null hypotheses were rejected, supporting the alternative hypotheses that significant gender differences exist in eating disorder symptoms and body dissatisfaction and that a significant relationship exists between depression and eating disorders.

4.6 Summary of Findings

The results revealed that females scored significantly higher than males on eating disorder symptoms, body dissatisfaction, and depression. A strong positive correlation was observed between eating disorder symptoms and depression, indicating that higher levels of depression are associated with greater eating disorder symptomatology. All three null hypotheses were rejected, supporting the presence of significant gender differences and meaningful psychological associations among the variables studied.

REFERENCES

1. American Psychiatric Association. (1980). Diagnostic and statistical manual of mental disorders (3rd ed.). Author.
2. Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. Archives of General Psychiatry, 4(6), 561–571. https://doi.org/10.1001/archpsyc.1961.01710120031004
3. Cooper, P. J., Taylor, M. J., Cooper, Z., & Fairburn, C. G. (1987). The development and validation of the Body Shape Questionnaire. International Journal of Eating Disorders, 6(4), 485–494.
4. Elder, G. H. (1998). The life course as developmental theory. Child Development, 69(1), 1–12.
5. Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. Science, 196(4286), 129–136.
6. Fairburn, C. G. (2008). Cognitive behavior therapy and eating disorders. Guilford Press.
7. Fairburn, C. G., & Beglin, S. J. (1994). Assessment of eating disorders. International Journal of Eating Disorders, 16(4), 363–370.
8. Forman-Hoffman, V. L., Watson, T. L., & Andersen, A. E. (2008). Eating disorder symptoms among elderly women. International Journal of Eating Disorders, 41(5), 447–453.
9. Gagne, D. A., Von Holle, A., Brownley, K. A., Runfola, C. D., Hofmeier, S., Branch, K. E., & Bulik, C. M. (2012). Eating disorder symptoms and weight and shape concerns in a large web-based convenience sample of women ages 50 and above. Eating Behaviors, 13(2), 143–147.
10. Garner, D. M., & Garfinkel, P. E. (1980). Sociocultural factors in the development of anorexia nervosa. Psychological Medicine, 10(4), 647–656.
11. Garner, D. M., Olmsted, M. P., Bohr, Y., & Garfinkel, P. E. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. Psychological Medicine, 12(4), 871–878.
12. Griffiths, S., Mond, J. M., Murray, S. B., & Touyz, S. (2015). Stigma and eating disorders in men. Psychology of Men & Masculinity, 16(4), 381–387.
13. Gull, W. W. (1873). Anorexia nervosa. Transactions of the Clinical Society of London, 7, 22–28.
14. Hay, P., Girosi, F., & Mond, J. (2015). Prevalence and sociodemographic correlates of DSM-5 eating disorders in the Australian population. BMC Medicine, 13, 66.
15. Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. Biological Psychiatry, 61(3), 348–358.
16. Lapid, M. I., Prom, M. C., Burton, M. C., McAlpine, D. E., Sutor, B., & Rummans, T. A. (2010). Eating disorders in the elderly. International Psychogeriatrics, 22(4), 523–536.
17. Lasègue, E. C. (1873). On hysterical anorexia. Archives Générales de Médecine.
18. Lewis-Smith, H., Diedrichs, P. C., Rumsey, N., & Harcourt, D. (2016). A systematic review of interventions on body image and disordered eating outcomes among women in midlife. International Journal of Eating Disorders, 49(1), 5–18.
19. Mangweth-Matzek, B., & Hoek, H. W. (2017). Epidemiology and treatment of eating disorders in men and women of middle and older age. Current Opinion in Psychiatry, 30(6), 446–451.
20. Mangweth-Matzek, B., Hoek, H. W., Rupp, C. I., Lackner-Seifert, K., Frey, N., Whitworth, A. B., Pope, H. G., & Kinzl, J. (2013). Prevalence of eating disorders in middle-aged women. International Journal of Eating Disorders, 46(6), 583–589.
21. Marcus, M. D., Bromberger, J. T., Wei, H. L., Brown, C., & Kravitz, H. M. (2007). Prevalence and selected correlates of eating disorder symptoms among a multiethnic community sample of midlife women. Annals of Behavioral Medicine, 33(3), 269–277.
22. Murray, S. B., Nagata, J. M., Griffiths, S., Calzo, J. P., Brown, T. A., Mitchison, D., Blashill, A. J., & Mond, J. M. (2017). The enigma of male eating disorders: A critical review and synthesis. Clinical Psychology Review, 57, 1–11.
23. Murray, S. B., Quintana, D. S., Loeb, K. L., Griffiths, S., & Le Grange, D. (2019). Treatment outcomes for anorexia nervosa: A systematic review and meta-analysis of randomized controlled trials. Psychological Medicine, 49(4), 535–544.
24. Musaiger, A. O., Al-Mannai, M., Tayyem, R., Al-Lalla, O., Ali, E. Y. A., Kalam, F., Benhamed, M. M., Saghir, S., Halahleh, I., Djoudi, Z., & Chirane, M. (2013). Risk of disordered eating attitudes among adolescents in seven Arab countries by gender and obesity: A cross-cultural study. Appetite, 60, 162–167.

25. Nakai, Y., Nin, K., & Noma, S. (2014). Eating disorder symptoms among Japanese female students in 1982, 1992 and 2002. Psychiatry Research, 219(1), 151–156.
26. Olivardia, R., Pope, H. G., Borowiecki, J. J., & Cohane, G. H. (2004). Biceps and body image: The relationship between muscularity and self-esteem, depression, and eating disorder symptoms. Psychology of Men & Masculinity, 5(2), 112–120.
27. Polivy, J., & Herman, C. P. (2002). Causes of eating disorders. Annual Review of Psychology, 53, 187–213.
28. Runfola, C. D., Von Holle, A., Trace, S. E., Brownley, K. A., Hofmeier, S. M., Gagne, D. A., & Bulik, C. M. (2013). Body dissatisfaction in women across the lifespan: Results of the UNC-SELF and Gender and Body Image (GABI) studies. European Eating Disorders Review, 21(1), 52–59.
29. Spitzer, R. L., Devlin, M., Walsh, B. T., Hasin, D., Wing, R., Marcus, M., Stunkard, A., Wadden, T., Yanovski, S., Agras, S., Mitchell, J., & Nonas, C. (1992). Binge eating disorder: A multisite field trial of the diagnostic criteria. International Journal of Eating Disorders, 11(3), 191–203.
30. Srinivasan, T. N., Suresh, T. R., Jayaram, V., & Fernandez, M. P. (2018). Eating disorders in India: An overview. Indian Journal of Psychiatry, 60(2), 125–132.
31. Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. Psychological Bulletin, 128(5), 825–848.
32. Strother, E., Lemberg, R., Stanford, S. C., & Turberville, D. (2012). Eating disorders in men: Underdiagnosed, undertreated, and misunderstood. Eating Disorders, 20(5), 346–355.
33. Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). Exacting beauty: Theory, assessment, and treatment of body image disturbance. American Psychological Association.