

Examining the Relationship between Achenbach Scales (YSR/11-18) and Sleep Quality in Arab Adolescents

A Comparative Study of Those with and Without Eating

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Abstract: This study aimed to investigate the differences between Arab adolescents with and without eating disorders, focusing on self-reported measures from the Achenbach Youth Self-Report (YSR) and sleep quality assessments. A total of 364 Arab students from northern Israel, aged 11-18, participated in the study. The research employed a demographic background questionnaire, an eating disorder questionnaire, a sleep quality questionnaire, and the YSR to assess emotional and behavioral problems. The findings revealed significant gender differences, with girls displaying higher levels of eating disorders, anxiety, depression, and somatic complaints compared to boys. Boys, on the other hand, exhibited higher levels of rule-breaking behavior, though no significant differences were found in other behavioral dimensions. The study also identified a strong correlation between academic track and eating disorders, with high school students being the most affected. Furthermore, significant differences emerged between students with and without eating disorders in most Achenbach measures, except for withdrawal/depression, thought problems, and attention problems. Positive correlations were observed between eating disorders and psychological difficulties such as social problems, somatic complaints, and aggressive behavior. Additionally, a significant positive correlation was found between eating disorders and poor sleep quality, further highlighting the psychological burden of these disorders. These findings suggest a strong link between eating disorders, emotional and behavioral difficulties, and sleep disturbances, particularly among girls and high school students. The study emphasizes the need for culturally sensitive, targeted interventions that address both the emotional and physical health challenges faced by Arab adolescents.

INTRODUCTION

Adolescence is a critical period marked by significant emotional, psychological, and physical changes, making it an essential phase for mental health interventions. This study investigates the relationship between eating disorders and emotional and behavioral difficulties, as assessed by the Achenbach Youth Self-Report (YSR/11-18), and their impact on sleep quality among Arab adolescents in Israel. The unique cultural context of Arab society, characterized by a blend of traditional values and modernization, presents distinct challenges that may exacerbate mental health issues, particularly among adolescents.

Eating disorders, including anorexia nervosa, bulimia nervosa, and binge eating disorder, are serious psychiatric conditions associated with profound psychological distress and, in severe cases, mortality (Smink et al., 2012). Research indicates a strong correlation between eating disorders and co-occurring mental health issues such as depression and anxiety, which are particularly pronounced during adolescence (Gander et al., 2015). Cultural factors significantly influence the manifestation of eating disorders; in Arab societies, where traditional gender roles and collectivist values prevail, adolescents may experience intensified pressures related to body image and health (Al-Krenawi et al., 2009; Latzer et al., 2020).

Moreover, sleep quality is a vital component of adolescent well-being, with poor sleep linked to various mental health challenges, including anxiety and depression (Owens et al., 2014). Adolescents typically require 8-10 hours of sleep per night, yet many fail to achieve this due to academic pressures and social demands (Dahl, 1999). This study aims to elucidate the connections between sleep quality, emotional difficulties, and eating disorders among Arab adolescents, providing insights into how these variables interrelate within a culturally specific framework.

The primary objective of this research is to explore differences in self-reported Achenbach measures among Arab adolescents with and without eating disorders, with particular attention to gender disparities and educational levels. The study hypothesizes that significant differences will exist in emotional and behavioral problems as measured by the YSR, and that these issues will correlate positively with eating disorders and sleep disturbances. Given the limited existing literature on this topic within Arab populations, this study seeks to fill a critical gap and contribute to the development of culturally informed interventions aimed at improving adolescent mental health.

By examining the intricate relationships among eating disorders, emotional and behavioral issues, and sleep quality in Arab adolescents, this research underscores the necessity for targeted support strategies that address the unique challenges faced by this demographic. Understanding these dynamics is crucial for fostering healthier developmental trajectories among Arab youth in Israel, ultimately promoting better mental health outcomes and overall well-being.

THEORETICAL BACKGROUNDS

Youth Self-Report (YSR/11-18)

The Youth Self-Report (YSR/11-18) (Achenbach, 1991b) is an extensively validated tool designed to assess both emotional and behavioral problems in adolescents aged 11-18. Developed from the Child Behavior Checklist (CBCL/4-18) (Achenbach, 1991c), it is part of a broader assessment system that includes the Teacher's Report Form (TRF/5-18) and parent versions, enabling the collection of data from multiple informants, which is crucial for enhancing the reliability and validity of assessments (Achenbach & Rescorla, 2001). This multi-informant approach increases the robustness of the results, particularly in clinical settings where accurate data collection from various perspectives is essential.

The YSR contains two distinct parts: one that assesses psychosocial competencies, such as academic performance and social skills, and another that measures problematic behaviors. The internalizing and externalizing syndromes cover a broad spectrum of psychological difficulties, including anxiety, depression, aggressive behavior, and rule breaking. Several studies confirm its cross-cultural validity, making it applicable in a wide variety of contexts (Ebesutani et al., 2011; Verhulp et al., 2014; Zubeidat et al., 2018; Zubeidat et al., 2009).

Moreover, the internal consistency of the YSR has been evaluated across diverse populations, with Cronbach's alpha values ranging from 0.61 to 0.92, suggesting that it offers reliable results in both normative and clinical samples (Wyss et al., 2003). The YSR is particularly beneficial in multicultural societies like Israel, where Arab adolescents face unique cultural challenges (Al-Krenawi et al., 2009), making it essential to assess their psychological well-being in a culturally sensitive manner.

A more recent study by Ivanova et al. (2020) examined the YSR's applicability across various countries, further confirming its cross-cultural reliability. This study also explored how different cultural contexts influence adolescents' behaviors and emotional responses. Moreover, Achenbach et al. (2021) highlighted that as globalization increases, adolescents are exposed to a more homogenized culture, resulting in the increasing relevance of the YSR for diverse populations. These findings reinforce the utility of the YSR in providing a standardized, yet culturally flexible, method for assessing adolescent mental health.

Eating Disorders

Eating disorders are recognized as serious psychiatric conditions that include anorexia nervosa, bulimia nervosa, and binge eating disorder. These disorders not only impair physical health but also cause significant psychological distress. The mortality rate associated with anorexia nervosa is notably high, estimated at around 6% (Smink et al., 2012), making it one of the most dangerous psychiatric conditions. Adolescents with eating disorders often experience comorbid conditions such as depression and anxiety (Pilecki &

Jozefik, 2008), both of which complicate the diagnosis and treatment of these disorders.

Recent studies emphasize the increasing prevalence of eating disorders among adolescents in both Western and non-Western societies, with a particular focus on cultural factors that drive the development of body dissatisfaction and disordered eating behaviors (Latzer et al., 2019). The growing cultural pressures for thinness, particularly among girls, is a critical factor contributing to the rise in eating disorders globally (Treasure et al., 2020). Additionally, adolescents who identify as gender nonconforming are at a higher risk of developing body image issues, partly due to societal gender expectations (Donaldson et al., 2018).

Moreover, there is growing concern over the increasing prevalence of overweight and obesity in children and adolescents, as these conditions are often associated with unhealthy eating behaviors, cardiovascular disease, and psychological distress later in life (Ma et al., 2014). Recent studies also highlight the role of social media in promoting unrealistic beauty standards, which contributes to the development of eating disorders in both boys and girls (Holland & Tiggemann, 2016; Zubeidat, 2024).

A study by Rodgers et al. (2020) extended the discussion on how media impacts body image dissatisfaction, particularly among girls, and confirmed that adolescent girls remain highly vulnerable to disordered eating due to cultural beauty norms. Media exposure in adolescence increases the internalization of thin ideals, exacerbating body dissatisfaction and contributing to a higher prevalence of eating disorders among girls than boys (Levinson et al., 2019). In the context of Arab societies, where traditional gender roles demand modesty and specific beauty standards, these pressures are further intensified (Al-Krenawi et al., 2009).

Sleep Quality

Sleep is essential for maintaining physical, emotional, and cognitive health, particularly during adolescence, a period marked by significant brain development. Adolescents require 8-10 hours of sleep per night, but studies show that most adolescents do not meet this recommendation, often due to academic pressures, social activities, and increased screen time (Owens et al., 2014). Sleep deprivation has been linked to depression, anxiety, and attention problems, as well as academic underperformance (Becker et al., 2015; Sierra et al., 2005). Moreover, a vicious cycle often develops, whereby poor sleep quality exacerbates emotional difficulties, which in turn worsens sleep (Dahl, 1999).

A more recent study by Short et al. (2020) highlighted how the pandemic altered adolescents' sleep patterns, with many experiencing increased screen time and reduced sleep quality. These findings are crucial in understanding how external factors such as societal disruptions can impact adolescent well-being. Additionally, Zhou et al. (2021) found that adolescents who reported poor sleep were also more likely to develop mental health issues, reinforcing the need for interventions that promote healthy sleep habits among adolescents.

ADOLESCENTS IN ISRAELI ARAB SOCIETY

In Israeli Arab society, adolescents face unique challenges as they navigate cultural transitions and attempt to balance traditional collectivist values with the pressures of modernization. Research highlights the growing psychological distress among Arab adolescents in Israel, driven by the clash of traditional gender roles and modern social expectations (Al-Krenawi et al., 2009). This distress is exacerbated by systemic discrimination and socio-economic disparities, further heightening their vulnerabilities.

A 2020 study by Latzer et al. explores how cultural shifts in Arab society are creating identity conflicts among adolescents, particularly in relation to body image and mental health. As adolescents in these communities become increasingly exposed to Western media and social networks, they encounter contradictory messages about gender roles, beauty standards, and individualism (Shapira, 2011). These conflicting pressures often lead to psychological distress, including higher rates of anxiety and depression (Al-Krenawi et al., 2009). Research also suggests that Arab adolescents are at a higher risk of developing eating disorders due to the intersection of traditional values and Western beauty ideals (Latzer et al., 2020).

In addition to cultural pressures, socio-economic disparities in Arab Israeli society play a significant role in shaping the psychological well-being of adolescents. Shoshani et al. (2020) found that economic hardships and systemic discrimination contribute to increased rates of depression and anxiety among Arab adolescents in Israel, further exacerbating their mental health challenges. Moreover, family dynamics play a critical role in both the development and treatment of these disorders. In collectivist cultures, family honor and community expectations often create barriers to seeking mental health support (Al-Krenawi et al., 2009).

CONCLUSION

The Youth Self-Report (YSR/11-18) remains a valuable tool in assessing behavioral and emotional problems among adolescents, particularly when combined with the multi-informant approach. As globalization and cultural shifts continue to influence adolescent development, it becomes increasingly important to consider the socio-cultural context in which adolescents navigate their mental health challenges. Arab adolescents in Israel face unique pressures, including the tension between traditional values and modern influences, which contribute to a higher prevalence of eating disorders and psychological distress. Moreover, sleep quality, which plays a critical role in adolescent well-being, continues to be an area of concern, particularly in light of recent global disruptions.

Rationale, Research Objective, Question, and Hypotheses

The current study highlights the critical need for early identification and treatment of eating disorders during adolescence, a period marked by significant physical, emotional, and psychological development. Adolescence is a particularly vulnerable stage where individuals are susceptible to various mental health challenges, including depression and body image concerns. Eating disorders, such as anorexia nervosa, often co-occur with other mental health issues, particularly depression, which has a profound effect on an individual's emotional well-being and social functioning (Ranta et al., 2017). While there is a wealth of research on eating disorders in Western societies, there remains a significant gap in the literature regarding the Arab population in Israel.

Arab society in Israel is characterized by a unique blend of collectivist and traditional values, undergoing gradual changes due to modernization and exposure to Western influences (Shapira, 2011; Dallasheh, 2024a). The cultural and social pressures in Arab society, including family honor, community expectations, and gender norms, can profoundly shape adolescents' experiences and behaviors, particularly in relation to body image and mental health (Al-Krenawi et al., 2009). For Arab adolescents, the intersection of traditional values and the increasing influence of Western beauty ideals may exacerbate body dissatisfaction and contribute to the development of eating disorders. Additionally, the limited discussion of mental health in conservative Arab communities can create barriers to seeking help, increasing the risk of untreated mental health issues such as depression and eating disorders (Al-Krenawi et al., 2009).

The current study seeks to fill the gap in the literature by exploring the relationship between eating disorders, emotional and behavioral problems, and sleep disturbances among Arab adolescents in Israel. This focus on Arab adolescents is crucial, as the social and cultural context within which they navigate their adolescence is markedly different from that of their Jewish counterparts or peers in Western countries. These differences include the pressures of maintaining family honor, adhering to conservative gender roles, and balancing traditional values with modern influences, all of which may contribute to unique stressors that affect mental health.

The objective of this research is to investigate whether there are significant differences in self-reported Achenbach measures (YSR/11-18) between Arab adolescents with and without eating disorders, with a specific focus on emotional and behavioral problems. The research also aims to examine the role of sleep disturbances in these adolescents, as previous research has shown that poor sleep quality can exacerbate both eating disorders and emotional difficulties (Owens et al., 2014).

The central research question guiding this study is:

Are there significant differences in self-reported Achenbach measures (YSR/11-18) between Arab adolescents with and without eating disorders, specifically regarding emotional and behavioral problems?

According to the research objective and question, the research hypotheses were:

Hypothesis 1: There will be gender differences between Arab students with and without eating disorders.

Hypothesis 2: There will be gender differences in the severity of eating disorders among Arab students.

Hypothesis 3: There will be gender differences in Achenbach self-report measures among Arab students.

Hypothesis 4: Differences will be found in eating disorders according to educational level (elementary, middle, high school) among Arab students.

Hypothesis 5: Differences will be found between Arab students with and without eating disorders in Achenbach self-report measures.

Hypothesis 6: There will be positive correlations between eating disorders and Achenbach self-report measures, as well as poor sleep quality among Arab students.

By examining these hypotheses, this study aims to contribute to a more nuanced understanding of eating disorders and related mental health challenges among Arab adolescents in Israel, providing valuable insights that can inform culturally sensitive interventions and support mechanisms.

RESEARCH METHOD

Study Design and Variables

This correlative quantitative study employed structured questionnaires to collect data from Arab Israeli adolescents aged 11 to 18. The primary objective was to explore relationships between eating disorders, Achenbach scales, and sleep quality, without attempting to establish causality. The dependent variable in this study was eating disorders, while the independent variables included various Achenbach scales, such as anxiety, depression, social isolation, somatic complaints, social problems, thought problems, attention problems, rule-breaking behavior, and aggressive behavior, as well as sleep quality.

PARTICIPANTS

The study, conducted in June 2022, included 364 adolescents ($M = 14.96$, $SD = 2.11$) from grades 6 to 12 in Northern Israel, selected through convenience sampling. Demographic data, including gender, age, grade level, and parental occupations, were collected. The sample consisted of 63.5% girls and 36.5% boys, representing a range of socioeconomic backgrounds: 44.5% of participants reported a high socioeconomic status, 30.2% reported middle socioeconomic status, and 23.1% reported very high socioeconomic status.

RESEARCH TOOLS

Participants completed several self-report questionnaires:

a. Demographic Variables Questionnaire: This questionnaire collected key demographic and background data about the participants, including gender, age, grade, and parental occupations. This information provided essential context for understanding the participants' profiles and socio-economic backgrounds.

b. Eating Attitudes Test-26 (EAT-26) (Garner et al., 1982): The EAT-26 is a widely used tool for identifying the risk of eating disorders based on participants' attitudes, feelings, and behaviors related to food and body image. The questionnaire includes 26 items that evaluate general eating behaviors and five additional items assessing risky eating behaviors. Each item is rated on a 6-point Likert scale, resulting in a total score ranging from 0 to 78. Scores of 20 or above suggest a clinically significant risk of eating disorders. The EAT-26 has demonstrated strong internal consistency, with a Cronbach's alpha of $\alpha = .87$, indicating high reliability for assessing the risk of eating disorders among adolescents.

c. Youth Self-Report (YSR 11-18) (Achenbach, 1991): The YSR is a self-report measure designed for adolescents aged 11 to 18. It includes 112 items assessing behavioral competencies and emotional problems, with each behavior rated on a 3-point scale. The YSR provides scores across several syndrome scales, including anxious/depressed, social isolation, somatic complaints, and social problems, thought problems, rule-breaking behavior, attention problems, and aggressive behavior. The YSR has been shown to have adequate internal consistency, with a Cronbach's alpha of $\alpha = .75$.

d. Pittsburgh Sleep Quality Index (PSQI) (Buysse et al., 1989): The PSQI is a validated measure of sleep quality consisting of 16 items divided into seven domains. These domains assess participants' subjective sleep experiences, with responses rated on a scale from 0 to 3. The total score ranges from 0 to 21, with higher scores indicating poorer sleep quality. Scores below five suggest good sleep quality, scores between five and ten indicate poor sleep quality, and scores above ten reflect significant sleep disturbances. The PSQI has demonstrated reliable internal consistency, with a Cronbach's alpha of $\alpha = .77$.

Procedure and Research Ethics

Prior to data collection, all questionnaires were translated from Hebrew into Arabic to ensure accessibility for participants. Researchers established contact with school principals in Arab localities across Northern Israel to arrange meetings where the study's objectives, procedures, and confidentiality protocols were explained. The principals were assured that participants' identities would remain anonymous, and that participation in the study was voluntary.

During the data collection phase, adolescents were informed that their participation was voluntary, and they were provided the option to complete the questionnaires in Arabic to accommodate their linguistic needs. The study

adhered to ethical research standards, including obtaining informed consent and ensuring the confidentiality of all participants. Researchers took appropriate measures to protect the anonymity of participants and responsibly manage sensitive information, thus safeguarding the well-being of both the educational institutions and the individuals involved.

FINDINGS

The results of this study are presented according to the research hypotheses.

Hypothesis 1: There will be gender differences between Arab students with and without eating disorders.

To examine the hypothesis that gender differences exist between students with and without eating disorders, a Chi-square test was conducted. The results are presented in Table 1.

Table 1: Distribution of Participants with and without eating disorders (N = 364).

	No Eating Disorders	With Eating Disorders
Frequency	298 (81.9%)	66 (18.1%)

The data in Table 1 show that 81.9% of participants do not have eating disorders, while 18.1% do.

Chi-square test was conducted to examine the association between gender and eating disorders, with the results presented in Table 2.

Table 2: Relationship Between Gender and Eating Disorders (N = 364).

	X ²	Male	Female
Chi-square	2.985	18 (27.3%)	48 (72.7%)
Phi and Cramer	-.091		

The data in Table 2 indicate a significant relationship between gender and eating disorders, where 72.7% of those with eating disorders are female, and only 27.3% are male ($p < .05$).

Hypothesis 2: There will be gender differences in the severity of eating disorders among Arab students.

To examine the hypothesis that gender differences exist in the severity of eating disorders, an independent-samples t-test was conducted. The results are presented in Table 3.

Table 3: Differences in Eating Disorders between Males and Females (N = 362).

	t	SD	M
Males	3.161	.754	2.37
Females		.770	2.63
p			< .01

The data in Table 3 show that females ($M = 2.63$, $SD = .770$) report a significantly higher level of eating disorders compared to males ($M = 2.37$, $SD = .754$), ($p < .01$).

Hypothesis 3: There will be gender differences in Achenbach self-report measures among Arab students.

To test the hypothesis that gender differences exist in Achenbach self-report measures, an independent-samples t-test was conducted. The results are presented in Table 4.

Table 4: Gender Differences in Achenbach Self-Report Measures (N = 364).

Variable	Males (n=133)	Females (n=231)	t	p
Anxiety/Depression	$M = .335$, $SD = .288$	$M = .482$, $SD = .810$	2.012*	< .05
Withdrawn/Depressed	$M = .680$, $SD = 1.496$	$M = .652$, $SD = 1.231$	-0.192	.848
Somatic Complaints	$M = .267$, $SD = .370$	$M = .364$, $SD = .336$	2.560*	< .05
Social Problems	$M = .304$, $SD = .326$	$M = .297$, $SD = .292$	-0.212	.833
Thought Problems	$M = .543$, $SD = .334$	$M = .609$, $SD = 1.039$	0.702	.483
Attention Problems	$M = .574$, $SD = 1.040$	$M = .613$, $SD = 1.086$	0.332	.740
Rule-breaking	$M = .336$, $SD = .355$	$M = .236$, $SD = .233$	-3.241**	< .01
Aggressive Behavior	$M = .451$, $SD = .410$	$M = .491$, $SD = .538$	0.751	.653

The findings in Table 4 reveal the following:

1. Females ($M = .482$, $SD = .810$) report significantly higher levels of anxiety/depression compared to males ($M = .335$, $SD = .288$), ($p < .05$).
2. No significant difference was found between males and females in withdrawn/depressed behavior ($p = .848$).
3. Females ($M = .364$, $SD = .336$) report significantly higher levels of somatic complaints compared to males ($M = .267$, $SD = .370$), ($p < .05$).
4. No significant differences were found in social problems, thought problems, attention problems, or aggressive behavior between genders.

5. Males ($M = .336$, $SD = .355$) report significantly higher levels of rule-breaking behavior than females ($M = .236$, $SD = .233$), ($p < .01$).

Hypothesis 4: Differences will be found in eating disorders according to educational level (elementary, middle, high school) among Arab students.

A Chi-square test was conducted to examine differences in eating disorders across different educational levels. The results are presented in Table 5.

Table 5: Relationship Between Educational Level and Eating Disorders ($N = 364$).

	X^2	Elementary	Middle School	High School
Chi-square	5.634	9.1%	25.8%	65.2%
Phi and Cramer	.124			

The data in Table 5 indicate a significant relationship between educational level and eating disorders, with 65.2% of students with eating disorders attending high school, 25.8% in middle school, and only 9.1% in elementary school ($p < .05$).

Hypothesis 5: Differences will be found between Arab students with and without eating disorders in Achenbach self-report measures.

An independent-samples t-test was conducted to examine differences between students with and without eating disorders in Achenbach self-report measures. The results are presented in Table 6.

Table 6: Differences between Students with and Without Eating Disorders in Achenbach Self-Report Measures (N = 364).

With Eating Disorders (n=66)	No Eating Disorders (n=298)	Variable	t	p
M = 0.643, SD = 1.040	M = 0.381, SD = 0.549	Anxiety/Depression	-2.903*	< 0.05
M = 0.842, SD = 1.586	M = 0.622, SD = 1.269	Withdrawn/Depressed	-1.214	0.226
M = 0.510, SD = 0.380	M = 0.289, SD = 0.332	Somatic Complaints	-4.762*	< 0.01
M = 0.429, SD = 0.379	M = 0.270, SD = 0.278	Social Problems	-3.899***	< 0.001
M = 0.630, SD = 0.387	M = 0.575, SD = 0.924	Thought Problems	-0.478	0.633
M = 0.602, SD = 0.383	M = 0.598, SD = 1.168	Attention Problems	-0.028	0.977
M = 0.361, SD = 0.330	M = 0.253, SD = 0.274	Rule-breaking	-2.798**	< 0.01
M = 0.654, SD = 0.868	M = 0.437, SD = 0.355	Aggressive Behavior	-3.261**	< 0.01

The findings in Table 6 show the following:

1. Students with eating disorders (M = .643, SD = 1.040) report significantly higher levels of anxiety/depression compared to students without eating disorders (M = .381, SD = .549), ($p < .05$).
2. No significant difference was found in withdrawn/depressed behavior between students with and without eating disorders ($p = .226$).
3. Students with eating disorders (M = .510, SD = .380) report significantly higher levels of somatic complaints compared to students without eating disorders (M = .289, SD = .332), ($p < .01$).
4. Students with eating disorders (M = .429, SD = .379) report significantly higher levels of social problems compared to students without eating disorders (M = .270, SD = .278), ($p < .01$).

Hypothesis 6: There will be positive correlations between eating disorders and Achenbach self-report measures, as well as poor sleep quality among Arab students.

To examine the hypothesis that positive correlations exist between eating disorders and the Achenbach self-report measures and poor sleep quality, a Pearson correlation test was conducted. The results are presented in Table 7.

Table 7: Correlations between Eating Disorders, Achenbach Self-Report Measures, and Poor Sleep Quality (N = 364).

Variable	Correlation Coefficient (r)
Anxiety/Depression	$r = .148^{***}$
Withdrawn/Depressed	$r = .058$
Somatic Complaints	$r = .248^{***}$
Social Problems	$r = .243^{***}$
Thought Problems	$r = .094^*$
Attention Problems	$r = .027$
Rule-breaking Behavior	$r = .136^{**}$
Aggressive Behavior	$r = .198^{***}$
Poor Sleep Quality	$r = .203^{***}$

* $p < .05$; ** $p < .01$; *** $p < .001$

The findings in Table 7 indicate the following:

1. There is a significant positive correlation between anxiety/depression and eating disorders ($r = .148$, $p < .001$).
2. No significant correlation was found between withdrawn/depression and eating disorders ($r = .058$, $p = .135$).
3. There is a significant positive correlation between somatic complaints and eating disorders ($r = .248$, $p < .001$).
4. There is a significant positive correlation between social problems and eating disorders ($r = .243$, $p < .001$).
5. There is a significant positive correlation between thought problems and eating disorders ($r = .094$, $p < .05$).
6. No significant correlation was found between attention problems and eating disorders ($r = .027$, $p = .303$).
7. There is a significant positive correlation between rule-breaking behavior and eating disorders ($r = .136$, $p < .01$).
8. There is a significant positive correlation between aggressive behavior and eating disorders ($r = .198$, $p < .001$).
9. There is a significant positive correlation between poor sleep quality and eating disorders ($r = .203$, $p < .001$).

REGRESSION ANALYSIS

A stepwise multiple regression analysis was conducted to predict eating disorders based on somatic complaints, anxiety/depression, age, aggressive behavior, and number of siblings. The results are presented in Table 8.

Table 8: Stepwise Regression Analysis for Predicting Eating Disorders Based on Somatic Complaints, Anxiety/Depression, Age, Aggressive Behavior, and Number of Siblings (N = 364).

Variable	B	Std. Error	Beta	t
Somatic Complaints	.369	.129	.168	2.859**
Anxiety/Depression	.173	.083	.115	2.080*
Age	.046	.019	.126	2.484*
Aggressive Behavior	.183	.085	.117	2.159*
Number of Siblings	-.054	.027	-.100	-1.994*

* $p < .05$; ** $p < .01$

The regression analysis results in Table 9 indicate the following:

- Somatic Complaints: There is a significant positive relationship between somatic complaints and eating disorders ($\beta = .168$, $p < .01$), meaning that higher levels of somatic complaints are associated with higher levels of eating disorders.
- Anxiety/Depression: A significant positive relationship exists between anxiety/depression and eating disorders ($\beta = .115$, $p < .05$), indicating that as anxiety and depression increase, so do eating disorders.
- Age: A significant positive relationship was found between age and eating disorders ($\beta = .126$, $p < .05$), suggesting that older age is associated with higher levels of eating disorders.
- Aggressive Behavior: There is a significant positive relationship between aggressive behavior and eating disorders ($\beta = .117$, $p < .05$), indicating that higher levels of aggressive behavior are linked to more severe eating disorders.
- Number of Siblings: A significant negative relationship was found between the number of siblings and eating disorders ($\beta = -.100$, $p < .05$), suggesting that having more siblings is associated with fewer eating disorders.

These variables together explained 11.1% of the variance in eating disorders ($F(5, 357) = 8.884$, $p < .001$). Somatic complaints contributed the largest portion of variance (6.2%), followed by anxiety/depression (1.5%), age (1.2%), aggressive behavior (1.2%), and number of siblings (1%).

The significant predictors of eating disorders, based on this regression model, include somatic complaints, anxiety/depression, age, aggressive behavior, and number of siblings. Other variables, such as withdrawn/depression, social problems, thought problems, attention problems, and rule-breaking behavior, did not significantly contribute to the model.

DISCUSSION

This study aimed to investigate the prevalence of eating disorders and their psychological, behavioral, and cultural correlates among Arab adolescents in Israel. While eating disorders have been extensively studied in Western contexts, research on their prevalence and underlying factors in Arab society remains limited. The findings of this study provide a culturally nuanced understanding of these disorders within the unique sociocultural environment of Arab adolescents in Israel.

CULTURAL CONTEXT AND EATING DISORDERS

The study revealed that 18.1% of the participants reported experiencing eating disorders, with a significant gender disparity: 72.7% of those with eating disorders were female. This gender gap is consistent with findings from other research, both in Western and non-Western contexts, indicating that girls are more vulnerable to developing eating disorders due to cultural and societal pressures regarding body image (Treasure et al., 2020; Levinson et al., 2019). In Arab society, the role of traditional gender norms further amplifies this pressure, particularly as girls are expected to adhere to specific beauty standards while balancing the expectations of modesty and family honor (Al-Krenawi et al., 2009). The increasing exposure to Western media and ideals of thinness has been shown to intensify these cultural pressures, contributing to body dissatisfaction and disordered eating behaviors among Arab adolescents, especially girls (Latzer et al., 2019; Alaoui et al., 2020).

The higher prevalence of eating disorders among high school students compared to middle and elementary school students supports the notion that adolescence is a critical period for the onset of eating disorders. During this developmental stage, adolescents experience heightened concerns about body image and social acceptance, which are often exacerbated by media portrayals of idealized body types (Holland & Tiggemann, 2016). Studies have demonstrated that exposure to media that promotes unrealistic beauty standards is particularly detrimental to adolescents, leading to body dissatisfaction, dieting behaviors, and ultimately eating disorders (Rodgers et al., 2018).

PSYCHOLOGICAL CORRELATES OF EATING DISORDERS

The study found significant positive correlations between eating disorders and several psychological factors, including anxiety, depression, somatic complaints, and social problems. These results are consistent with existing literature, which highlights the strong association between eating disorders and comorbid psychological conditions such as mood disorders and interpersonal difficulties (Levinson & Rodebaugh, 2016; Culbert et al., 2015). Anxiety and depression, in particular, are common among individuals with eating disorders, often exacerbating the severity of the disorder and complicating treatment outcomes (Smith et al., 2019). In the context of Arab society, where mental health issues are often stigmatized and underreported, somatic symptoms may serve as a more socially acceptable expression of emotional distress (Kirmayer & Young, 1998; Al-Krenawi et al., 2009).

The strong correlation between somatic complaints and eating disorders found in this study aligns with previous research suggesting that individuals in non-Western societies may express psychological distress through physical symptoms (Kirmayer & Ryder, 2016). This finding is particularly relevant in the Arab cultural context, where emotional and psychological problems are often less openly discussed, and physical symptoms may be more readily acknowledged and addressed (Abdulrahim & Ajrouch, 2019). This cultural tendency toward somatization highlights the importance of incorporating culturally sensitive approaches in the assessment and treatment of eating disorders among Arab adolescents.

GENDER DIFFERENCES IN PSYCHOLOGICAL AND BEHAVIORAL ISSUES

The study also identified significant gender differences in the psychological dimensions of the Achenbach self-report scales. Girls reported higher levels of anxiety, depression, and somatic complaints, while boys exhibited more externalizing behaviors, such as rule-breaking and aggression. These findings align with previous research that indicates that girls are more likely to internalize psychological distress, resulting in higher rates of anxiety and depression, whereas boys tend to externalize their distress through disruptive behaviors (Achenbach, 1991; Lemos et al., 1992). This gendered pattern of behavior is particularly pronounced in Arab society, where traditional gender roles dictate that girls are expected to be more obedient and conform to societal norms, while boys may experience more freedom to engage in rule-breaking behaviors (Al-Krenawi et al., 2009).

Moreover, the strong association between aggressive behavior and eating disorders is an important finding, suggesting that adolescents who exhibit more externalizing behaviors may also struggle with body image issues and disordered eating. This relationship between externalizing behaviors and eating disorders has been noted in previous studies, where impulsivity and aggression were

linked to bulimic behaviors (Levinson et al., 2019; Pearson et al., 2016). In the context of Arab society, where gender norms are rigidly enforced, girls may express their psychological distress through internalizing behaviors, while boys may channel their distress into more externalized forms of rebellion, including aggressive behaviors (Alaoui et al., 2020).

Media Influence and Developmental Transitions

The influence of media on adolescents' perceptions of body image and the development of eating disorders was also evident in this study. The significant role of media in shaping body image concerns has been widely documented, with adolescents being particularly susceptible to messages that promote thinness and unrealistic beauty standards (Holland & Tiggemann, 2016). Media exposure has been shown to increase body dissatisfaction and disordered eating behaviors, especially among girls who internalize these messages as societal expectations (Rodgers et al., 2018).

In addition to media exposure, the developmental transitions that occur during adolescence are critical periods for the onset of eating disorders. The challenges of developing self-identity, managing peer relationships, and navigating body image concerns are intensified during this time, making adolescents particularly vulnerable to eating disorders (Stice et al., 2017). These developmental transitions are further complicated in the context of Arab society, where adolescents must balance traditional cultural expectations with modern influences, leading to increased psychological distress and body dissatisfaction (Al-Krenawi et al., 2009).

CONCLUSIONS

Based on the findings of this research, several important conclusions can be drawn:

1. **Prevalence and Gender Disparity:** This study demonstrates a high prevalence of eating disorders among Arab adolescents in Israel, with female adolescents disproportionately affected. Cultural pressures on body image, compounded by traditional gender norms, play a significant role in this disparity. These findings highlight the need for gender-sensitive interventions that address the specific dynamics affecting girls in Arab society.
2. **Cultural and Media Influences:** Western media has a profound impact on body dissatisfaction among Arab adolescents, especially girls. The exposure to unrealistic beauty standards through media contributes to disordered eating behaviors. Future interventions should focus on promoting media literacy to mitigate the negative influence of media on adolescent body image.
3. **Psychological Comorbidities:** There is a strong association between eating disorders and psychological issues such as anxiety, depression, and somatic complaints. The tendency to somatize emotional distress, particularly in non-Western societies like the Arab population, emphasizes the need for culturally sensitive diagnostic tools.

4. **Gender Roles and Externalizing Behaviors:** Gender differences in the expression of psychological distress are evident, with girls internalizing distress and boys exhibiting externalizing behaviors such as aggression. The link between aggressive behaviors and body dissatisfaction calls for a gender-specific approach in the treatment of eating disorders.

5. **Developmental Transitions:** Adolescence, a critical period for body image concerns, makes adolescents particularly vulnerable to eating disorders. The conflict between traditional values and modern influences, such as exposure to Western media, exacerbates body dissatisfaction among Arab adolescents.

6. **Culturally Sensitive Interventions:** The findings emphasize the importance of culturally tailored interventions in the treatment of eating disorders. In collectivist societies, family involvement is critical, and early intervention is essential for preventing long-term mental health issues.

7. **Policy and Practice Implications:** The study suggests the need for school-based mental health programs that provide early screening for eating disorders. Additionally, efforts should focus on reducing the stigma surrounding mental health in Arab communities and integrating mental health education into school curricula.

8. **Future Research:** Further research is needed on the intersection of culture, gender, and mental health among adolescents, with a particular focus on non-Western populations. Longitudinal studies should explore the impact of cultural transitions, media exposure, and socio-economic disparities on the development of eating disorders.

In conclusion, this study underscores the complex interplay between cultural expectations, gender norms, and psychological factors in the development of eating disorders among Arab adolescents. By addressing both the cultural and psychological dimensions of these disorders, healthcare professionals can create more effective interventions that are tailored to the unique needs of Arab adolescents in Israel.

Recommendations for Future Research and Practice

Subsequently, the recommendations of the study were:

1. **Culturally Sensitive Interventions:** Mental health professionals working with Arab adolescents should develop culturally sensitive interventions that address both the psychological and cultural factors contributing to eating disorders. Family involvement in treatment is crucial, as family dynamics play a significant role in the development and management of eating disorders in collectivist cultures (Singh et al., 2018; Abdulrahim & Ajrouch, 2019; Dallasheh, 2024b).

2. **Media Literacy Programs:** Schools and communities should implement media literacy programs to help adolescents critically assess media messages about body image and beauty standards. These programs should aim to reduce

the negative impact of media on body image and promote healthier self-perceptions (Rodgers et al., 2018).

3. **Holistic Treatment Approaches:** Given the strong associations between eating disorders and other psychological issues, treatment should adopt a holistic approach that addresses both the eating disorder and co-occurring conditions such as anxiety, depression, and somatic complaints. Cognitive-behavioral therapy (CBT) combined with family-based interventions may provide effective solutions for this population (Craig et al., 2019).

4. **Early Intervention and Prevention:** Public health initiatives should focus on early detection of eating disorders and related psychological problems in schools, particularly in Arab communities. Providing adolescents with access to mental health resources and support early in the onset of these disorders can improve treatment outcomes and reduce long-term impacts (Levinson & Rodebaugh, 2016; Masri et al., 2023).

LIMITATIONS OF THE STUDY

This study has several limitations that should be acknowledged. First, the use of self-reported questionnaires, such as the Achenbach Youth Self-Report (YSR) and the eating disorder and sleep quality assessments, may introduce response bias, as participants might underreport or overreport their symptoms due to social desirability or lack of self-awareness.

Additionally, the study utilized a convenience sampling method, limiting the generalizability of the findings to the broader population of Arab adolescents in Israel. Another limitation is the cross-sectional design, which prevents the establishment of causal relationships between eating disorders, psychological difficulties, and sleep quality.

Furthermore, the study did not account for potential confounding factors such as socioeconomic status, family dynamics, or cultural pressures, which may influence both psychological well-being and the development of eating disorders.

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