Disordered Eating Related Behaviors among Arab Schoolgirls In Israel: An Epidemiological Study

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ABSTRACT
Objective: To examine the prevalence of disordered eating attitudes and behaviors among three religious subgroups of Arab schoolgirls in Israel (Moslems, Druze, and Christians).

Method: The sample consisted of 1,131 Arab schoolgirls in Israel, including 922 (81.5%) Moslem, 125 (11.1%) Christian, and 84 (7.4%) Druze adolescents, in the 7–12th grades. The sample was drawn from urban and rural residential settings from all parts of Israel using a clusters sampling method.

Results: The Christian subgroup had a significantly lower total eating disorder inventory-2 (EDI-2) score than the Druze and Moslem subgroups, which had similar total EDI-2 scores. Significant differences were found between the three religious subgroups in all subscales, except in drive for thinness (DT), bulimia, body dissatisfaction, and asceticism. A total of 154 (13%) Arab schoolgirls scored higher than the cut-off point of ≥14 on the EDI-DT subscale.

Conclusion: The results are discussed in light of the differences between the Christian, Druze, and Moslem subgroups and in terms of various aspects of Arab culture in Israel.

Keywords: Arabs in Israel; disordered eating behavior; adolescents; epidemiology

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Introduction
The prevalence of eating disorders and abnormal eating patterns in adolescents has increased dramatically in the last four decades, particularly in Western societies.1 This has led scholars to consider such disorders as culture-bound syndromes of the West and to focus on the role of sociocultural factors in the pathogenesis of eating disorders2 (Witztum E et al. Eating disorders as an idiom of distress: Historical survey, contemporary socio-cultural perspectives, and the Israeli perspective. Submitted).

However, the influence of Western values stretches far beyond the countries that are traditionally considered as Western. Cultural change in non-Western countries involving identification with Western norms of shape and body weight is consistently correlated with an increase in weight consciousness and the risk of developing eating disorders.3–6 As a unique multicultural society encompassing various ethnic and religious groups and immigrants from many different countries, Israel is coping with the same issues. In the last three decades, large numbers of Israeli-Jewish adolescents in nonclinical settings have been found to have abnormal eating attitudes and weight concerns7–9 (Latzer et al. Comparative study of eating related attitudes and psychological traits between Israeli Arab and Jewish schoolgirls. Submitted).

Approximately 20% (1.5 million) of the Israeli population is made up of Arabs, with 82% Moslems (including Bedouins and Circassians), 9% Druze, and 9% Christians.10 The Arab population is undergoing a transition from traditionalism to modernization, although the pace of this process differs among Christians, Druze, and Moslems. Generally, Christian Arabs are closer to Western norms and values and are experiencing a faster rate of change toward modernization than their Moslem and Druze counterparts for a variety of reasons.11 In particular, more Christian Arabs live in urban areas, are more educated, and tend to be closer and more involved with the Jewish population than the Moslems and Druze, who live in rural areas (i.e., in villages) and maintain traditional ways of life.12,13 In comparison with Moslems and Druze, Christians also appear to have a more equal orientation to-
ward labor distribution in terms of traditional male and female roles. Nevertheless, despite greater similarities between Christian and Jewish society in Israel, as compared with the Moslems, there remain sharp distinctions between Christian Arabs and Jews in many areas of life.

The Druze constitutes a separate Arab-speaking minority while maintaining excellent relations with the Jewish majority. They take an active part in national political life and serve in the Israeli army. Yet, most of the Druze live in villages as agriculturists and preserve their traditional way of life.

Indeed, all three Arab religious groups maintain more traditional social norms and customs than the Jewish population, with particular differences in basic values and attitudes toward femininity and sex roles, marriage and divorce, family relations, and child-rearing. All of the groups have their own educational system with lessons conducted in Arabic. However, they are being increasingly influenced by the electronic media of the Israeli majority, which represents modern, Western-oriented society.

Traditionally, thinness is regarded as socially undesirable among Arabs, while plumpness is considered as a symbol of fertility and womanhood. Thus, it is not surprising that low rates of ED have been reported among Arab populations. A few studies examining the prevalence of eating disorders have been conducted in Arab cultures, including two studies that reported cases of BN in Pakistan. In another study on female Arab students in London and Cairo Universities, Nasser found that 12% of the participants in the London group met Russell’s criteria for BN, whereas none of the Cairo group reported bulimic symptoms. There were no cases of AN found in either group. Nasser also found prevalence rates of 1.2% for BN and 3.4% for partial syndrome BN among Egyptian secondary schoolgirls.

Three other studies have been conducted among Saudi Arabian Arab schoolgirls, one using the eating disorder inventory-2 (EDI-2) questionnaire and two using the EAT-26 questionnaire. Al-Subaie et al. found that 19.6% of an Arab sample from Saudi Arabia scored above 20 on the EAT-26 scale. Al-Subaie found that the rate of positive cases of EDI-DT (16%) was similar to that of Shore and Porter for Canadian female students in the same age range. On the other hand, the rate of EDI-DT positive cases was found to be higher than in Rosen et al. and Garner et al. for high school female students of an older age. Using the score of 14 on the EDI-DT as a cut-off point indicating potential eating disorders, a recent study conducted in Iran found contrasting results, with lifetime prevalence rates of 0.9% for AN, 3.2% for BN, and 6.6% for partial syndrome BN.

Similarly, there is a small amount of epidemiological evidence confirming that the Arab population has a lower representation among referrals to Israeli ED clinics, as evidenced in the largest eating disorders outpatient clinic in the northern part of Israel (Latzer et al. Socio cultural characteristics of ED patients in outpatient clinic: A descriptive epidemiological study. Submitted). This low incidence remains unexplained. Only one study has been conducted to examine the eating behaviors and attitudes among communal samples of Arab adolescent schoolgirls in Israel. The EAT-26 questionnaire was used to compare the eating attitudes among five Arab subgroups: Moslems, Christians, Druze, Bedouins, and Circassians. Using a positive score as a marker for eating pathology, it was found that the Circassian adolescents scored the lowest on total eating pathology as well as on most subscales of the EAT-26, whereas the Bedouin adolescents scored the highest (Bedouins, 19.4%; Moslems, 18.6%; Christians, 15.4%; Druze, 14.3%; and Circassians, 8.0%; the percentages within each group scoring above 20 on EAT-26).

To our knowledge, no epidemiological study has yet been conducted in Israel investigating the prevalence of eating-related attitudes and disturbed behaviors in schoolgirls among the Arab population in Israel. Therefore, the aims of the study were to investigate the prevalence of disordered eating attitudes and behaviors, including weight concerns, dieting patterns, and psychological traits among three religious subgroups (Moslems, Druze, and Christians) of Arab schoolgirls in Israel, using the EDI-2 questionnaire.

Method

Sample

The research sample consisted of 1,131 Arab schoolgirls in Israel, including 922 (81.5%) Moslems, 125 (11.1%) Christians, and 84 (7.4%) Druze. The sample was drawn from urban and rural residential settings from all parts of Israel using a clusters sampling method. First, the sampled population was divided into four geographical areas of residence clusters. Second, a randomized sample of three religious subgroups (Moslems, Druze, and Christians) was drawn from each geographical cluster. Third, 50 middle and high schools (age range from 12 to 18 years) were selected at random from each religious subgroup. All of the pupils from the selected schools were asked to complete the research questionnaires. (It is...
TABLE 1. Mean (SD) of BMI and total EDI-2 scores according to age groups

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>N</th>
<th>BMI</th>
<th>EDI-2, Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>12–13</td>
<td>141</td>
<td>19.1 ± 3</td>
<td>76.4 ± 32.0</td>
</tr>
<tr>
<td>14–15</td>
<td>354</td>
<td>20.1 ± 3.1</td>
<td>72.2 ± 30.2</td>
</tr>
<tr>
<td>16–18</td>
<td>636</td>
<td>21.1 ± 3.1</td>
<td>69.7 ± 27.6</td>
</tr>
</tbody>
</table>

important to note that we did not differentiate the Bedouins from the Moslems, as they are Moslems. With regard to the Circassians, they were not included in the study because there are only two small villages in Israel.

The rationale for choosing three Arab religious subgroups is that there are apparent behavioral differences between each of the three religions in terms of social openness, cultural orientation, and self-perception, especially among the women. The rationale for dividing the subjects into three age groups is that they differ according to developmental stages of adolescence.\textsuperscript{32} The 18-year-olds were included in the 16–17 age group because we had only a small sample of this age group, due to the fact that these students were in 12th grade and were in the middle of their matriculation exams, which meant that most of them were not in class during the research period.

It should also be noted that the Arab school system in Israel is divided into two educational subsystems: (1) only elementary school (age range, 8–14 years) and high school (age range, 14–18 years); and (2) elementary, middle, and high schools. As a result of the sampling method, the sample has an under-representation of younger subjects (age range, 12–13 years). The younger subjects were also under-represented because about 3% did not complete the questionnaire and were therefore omitted from the sample, every one else agreed to participate in the study.

**Instrument**

The Eating Disorder Inventory-2 (EDI-2)\textsuperscript{33} is one of the most widely used self-report questionnaires for assessing psychological characteristics related to eating disorder pathology among Western populations. The EDI-2 is a multidimensional instrument with demonstrated utility for both clinical and nonclinical purposes.\textsuperscript{34} It is not intended to be used as a diagnostic instrument, but rather provides a profile of certain clusters of symptoms commonly found among individuals with eating disorders.

The EDI-2 contains 91 items, which are rated on a six-point scale and are divided into the following 11 subscales: drive for thinness (DT); bulimic tendencies (B); body dissatisfaction (BD); ineffectiveness (I); perfectionism (P); interpersonal distrust (ID); interpersonal awareness (IA); maturity fears (MF); asceticism (A); impulse regulation (IR); and social insecurity (SI). According to the EDI-2 manual,\textsuperscript{33} a cut-off point of 14 on the Drive for Thinness subscale (EDI-DT) was suggested for screening purposes, whereby a score of 14 and above is used to identify a potential marker of eating disorders cases.

The EDI-2 has been found to be a valid and reliable instrument in a wide range of different settings and has been translated into many different languages, including Chinese, Dutch, French, German, Spanish, Russian, Swedish, Bulgarian, Hebrew, Arabic,\textsuperscript{26} and Palestinian Arabic (Latzer et al. Comparative study of eating related attitudes and psychological traits between Israeli Arab and Jewish schoolgirls. Submitted).

**Procedure**

The questionnaires were approved prior to the trial by the Israel Ministry of Education, as well as by the school principals. Research assistants distributed the forms in the classroom. Students were told that they were taking part in a survey about the typical issues related to adolescents’ eating attitudes. Participation was voluntary and anonymous. The study was conducted in 2004.

**Statistical Analysis**

MANOVA analyses were conducted separately for age and religious groups, as well as for both age and religious groups together for all the EDI-2 subscales.

**Results**

The alpha Cronbach correlation of 0.88 for the EDI-2 was acceptable for the Israeli-Arab population, and the item-total correlations for the 11 subscales were: DT \(\alpha = 0.77\); B \(\alpha = 0.60\); BD \(\alpha = 0.82\); I \(\alpha = 0.64\); P \(\alpha = 0.61\); IA \(\alpha = 0.67\); MF \(\alpha = 0.58\); A \(\alpha = 0.54\); IR \(\alpha = 0.59\); and SI \(\alpha = 0.6\) (ID was dropped because the Cronbach Alpha result was below 0.50).

Table 1 includes the BMI and the total EDI-2 scores of the sample according to age groups. The results indicate that statistically significant differences were found in the BMI between age groups (\(F = 24.5, df = 2, p < .0001\)). The age group from 12 to 13 had the significantly lowest BMI, while the age group from 16 to 18 had the significantly highest BMI.

ANOVA results show that the total EDI-2 scores significantly differentiated between age groups (\(F = 3.3, df = 2, p < .04\)). According to Duncan’s multiple range test, the age groups from 12 to 13 and 14 to 15 had significantly higher total EDI-2 scores than the age group from 16 to 18 (Table 1).

Table 2 presents the BMI and the total EDI-2 scores of the sample according to the different religious groups. The results indicate that statistical differences were found in the BMI between the religious subgroups (\(F = 11.4, df = 2, p < .0001\)).
According to Duncan’s multiple range test, the Druze subgroup had a significantly lower BMI than the Moslem and Christian subgroups, which had similar BMI scores (Table 2).

ANOVA results show significant differences between the religious subgroups in their total EDI-2 scores ($F$ = 7.15, $df$ = 2, $p < .0008$). According to Duncan’s multiple range test, the Christian subgroup had a significantly lower total EDI-2 score than the Druze and Moslem subgroups, which had similar total EDI-2 scores (Table 2).

Table 3 illustrates the EDI-2 subscale scores for Israeli-Arab age groups ranging from 12 to 18. The results indicate significant differences in five sub-scales (I, P, ID, MF, SI) between age groups. In the I, P, ID, MF, and SI subscales, the 12–13 age group scored the highest. The age groups 14–15 and 16–18 had similarly lower scores, except in the P subscale in which the age group from 12 to 13 had the lower score.

Table 4 presents the significant differences between the three religious subgroups in all subscales, except in DT, B, BD, and A.

The MANOVA results showed:

1. The IA factor differentiated between the religious subgroups ($F$ = 6.0, $df$ = 2, $p < .003$). Duncan’s multiple range test showed that the Christian subgroup scored significantly lower than the Druze and Moslem subgroups, which had similar scores.

2. The MF factor differentiated between the religious subgroups ($F$ = 10.6, $df$ = 2, $p < .0001$). Duncan’s multiple range test showed that the Christian subgroup scored lower than the Moslem and Druze subgroups, which had similar scores.

3. The I factor differentiated between the religious subgroups ($F$ = 10.1, $df$ = 2, $p < .0001$). Duncan’s multiple range test showed that the Christian subgroup had the lowest score and the Druze subgroup had the significantly highest score.

4. The P factor differentiated between the religious subgroups ($F$ = 13.5, $df$ = 2, $p < .0001$). Duncan’s multiple range test showed that the Druze subgroup scored lower than the Christian and Moslem subgroups, which had similar scores.

5. The IR factor differentiated between the religious subgroups ($F$ = 4.0, $df$ = 2, $p < .02$). Duncan’s multiple range test showed that the Druze subgroup scored significantly lower than the Christian and Moslem subgroups, which had similar scores.

6. The SI factor differentiated between the religious subgroups ($F$ = 5.47, $df$ = 2, $p < .004$). Duncan’s multiple range test showed that the Druze subgroup scored significantly higher than the Christian and Moslem subgroups, which had similar scores.

No significant differences were found between the religious subgroups in the mean EDI-DT or in the percentage of those scoring higher than the cut-off point of $\geq$14 on the EDI-DT. A total of 154 (13%) participants in all religious subgroups scored higher than the cut-off point of $\geq$14 on the EDI-DT subscale.

### Table 2. Mean (SD) of BMI and total EDI-2 scores according to religious subgroups

<table>
<thead>
<tr>
<th>Religious Groups</th>
<th>N</th>
<th>Age</th>
<th>BMI</th>
<th>EDI-2, Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moslems</td>
<td>141</td>
<td>5.6</td>
<td>7.0</td>
<td>7.0 ± 5.7</td>
</tr>
<tr>
<td>Christians</td>
<td>141</td>
<td>5.6</td>
<td>7.0</td>
<td>7.0 ± 5.7</td>
</tr>
<tr>
<td>Druze</td>
<td>141</td>
<td>5.6</td>
<td>7.0</td>
<td>7.0 ± 5.7</td>
</tr>
</tbody>
</table>

### Table 3. EDI-2 subscale scores for Israeli age groups

<table>
<thead>
<tr>
<th>EDI-2 Subscales</th>
<th>Age</th>
<th>Age</th>
<th>Age</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12–13, N = 141</td>
<td>14–15, N = 354</td>
<td>16–18, N = 637</td>
<td></td>
</tr>
<tr>
<td>Drive for thinness (DT)</td>
<td>7.2 ± 5.6</td>
<td>7.3 ± 5.8</td>
<td>7.0 ± 5.7</td>
<td>n.s.</td>
</tr>
<tr>
<td>Bulimia (B)</td>
<td>3.1 ± 4.2</td>
<td>2.4 ± 3.3</td>
<td>2.6 ± 3.3</td>
<td>n.s.</td>
</tr>
<tr>
<td>Body dissatisfaction (BD)</td>
<td>7.5 ± 6.1</td>
<td>7.5 ± 6.5</td>
<td>7.4 ± 6.6</td>
<td>n.s.</td>
</tr>
<tr>
<td>Ineffectiveness (I)</td>
<td>5.5 ± 4.2</td>
<td>4.5 ± 4.6</td>
<td>4.1 ± 4.3</td>
<td>$p &lt; .003$</td>
</tr>
<tr>
<td>Perfectionism (P)</td>
<td>8.7 ± 5.6</td>
<td>10.8 ± 4.6</td>
<td>10.5 ± 4.2</td>
<td>$p &lt; .0001$</td>
</tr>
<tr>
<td>Interceptive awareness (IA)</td>
<td>7.4 ± 6.6</td>
<td>6.2 ± 5.6</td>
<td>6.4 ± 5.2</td>
<td>n.s.</td>
</tr>
<tr>
<td>Maturity fears (MF)</td>
<td>9.2 ± 5.4</td>
<td>8.3 ± 5.0</td>
<td>7.8 ± 4.8</td>
<td>$p &lt; .008$</td>
</tr>
<tr>
<td>Asceticism (A)</td>
<td>4.8 ± 4.4</td>
<td>5.5 ± 4.4</td>
<td>5.1 ± 3.8</td>
<td>n.s.</td>
</tr>
<tr>
<td>Impulse regulation (IR)</td>
<td>8.0 ± 5.7</td>
<td>9.1 ± 5.8</td>
<td>9.0 ± 5.3</td>
<td>n.s.</td>
</tr>
<tr>
<td>Social insecurity (SI)</td>
<td>5.7 ± 4.1</td>
<td>5.0 ± 4.0</td>
<td>4.4 ± 3.7</td>
<td>$p &lt; .002$</td>
</tr>
</tbody>
</table>
TABLE 4. Internal consistency of EDI-2 subscales for Israeli Arab religious groups

<table>
<thead>
<tr>
<th>EDI-2 Subscales</th>
<th>Moslem, N = 926</th>
<th>Christian, N = 128</th>
<th>Druze, N = 87</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive for thinness (DT)</td>
<td>7.2 ± 5.7</td>
<td>6.7 ± 5.7</td>
<td>7.0 ± 6.0</td>
<td>n.s.</td>
</tr>
<tr>
<td>Bulimia (B)</td>
<td>2.6 ± 3.4</td>
<td>2.3 ± 3.2</td>
<td>2.8 ± 4.0</td>
<td>n.s.</td>
</tr>
<tr>
<td>Body dissatisfaction (BD)</td>
<td>7.5 ± 6.5</td>
<td>7.1 ± 6.7</td>
<td>7.1 ± 6.1</td>
<td>n.s.</td>
</tr>
<tr>
<td>Impulse regulation (IR)</td>
<td>4.4 ± 4.5</td>
<td>3.2 ± 3.9</td>
<td>6.0 ± 4.2</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>Perfectionism (P)</td>
<td>10.7 ± 4.5</td>
<td>9.8 ± 3.9</td>
<td>8.1 ± 5.5</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>Interceptive awareness (IA)</td>
<td>6.7 ± 5.5</td>
<td>4.9 ± 4.6</td>
<td>7.1 ± 6.5</td>
<td>p &lt; .003</td>
</tr>
<tr>
<td>Maturity fears (MF)</td>
<td>8.4 ± 4.9</td>
<td>6.2 ± 4.5</td>
<td>8.2 ± 5.2</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>Asceticism (A)</td>
<td>5.2 ± 4.1</td>
<td>5.0 ± 3.6</td>
<td>4.8 ± 5.3</td>
<td>n.s.</td>
</tr>
<tr>
<td>Impulse regulation (IR)</td>
<td>9.2 ± 5.5</td>
<td>8.3 ± 4.9</td>
<td>7.6 ± 5.9</td>
<td>p &lt; .02</td>
</tr>
<tr>
<td>Social insecurity (SI)</td>
<td>4.8 ± 3.8</td>
<td>3.9 ± 3.2</td>
<td>5.8 ± 4.3</td>
<td>p &lt; .004</td>
</tr>
</tbody>
</table>

The mean total EDI-DT score was 7.13 ± 5.7 for all the Israeli-Arab religious subgroups. Significant Pearson correlations between the EDI-DT and the BMI scores were found in all three religious subgroups (Moslems, r = .4, p < .0001; Christians, r = .31, p < .0006; and Druze, r = .33, p < .005).

Conclusion

In the last three decades, there has been a growing interest in the relationship between cultural factors and eating disorders. The rise of eating disorders in non-Western but developed countries is correlated with increasing industrialization and urbanization. Such is the case in Israel, which is basically a Western-oriented and modern industrialized country comprised of various ethnic and religious groups, including some that are traditional by nature. This conceptualization describes the phenomenon of the culture clash occurring in Arab communities in Israel between the traditional-oriented Arab culture and its modern industrial surroundings.35

To our knowledge, no epidemiological studies of eating-related attitudes, preoccupations, and psychological traits among Israeli-Arab schoolgirls have been conducted in Israel. The focus of the current study was to investigate the prevalence of disordered eating attitudes and behaviors, including weight concerns, dieting, and eating behaviors, using the EDI-2, in a group of Arab schoolgirls in Israel according to three religious subgroups (Moslems, Druze, and Christians) and three age subgroups (age ranges, 12–13, 14–15, and 16–18).

The two most important findings of the current study are the identification of at-risk religious groups and age groups. First, age group 12–13 was found to have the lowest BMI, as expected. The finding that the youngest group had the highest total EDI-2 scores was somewhat surprising; however, an examination of the subscale scores revealed that there were no differences by age on the core eating pathology scale (DT, B, BD). The age differences appear to be largely driven by developmental factors. Although these results are higher than those reported by Shore and Porter, the trend is partially consistent with their results. In contrast to the current results, Shore and Porter’s scores on the core eating pathology scale were higher among the oldest age group. As for the developmental factors, the MF and P were found to be consistent, and the I and IA were inconsistent. These results may be explained by the small size of the youngest age group in the sample. Thus, it is difficult to generalize from these results, and further investigation is needed with a bigger sample of this age group.

Second, Christian girls had the significantly lowest EDI-2 scores (in 7 out of 11 subscales), while the Moslem and Druze girls had the highest scores for total disordered eating pathology, as well as for most subscales of the EDI-2. These results are slightly surprising, as it was expected to find the higher score among the Christians rather than among the Moslems or Druze. Christians are more exposed to modern culture, and thus their attitudes, norms, values, and behaviors reflect Western/modern influences.

The research results are in line with a previous study conducted in Israel, using EAT-26 to examine the eating attitudes of five Arab subgroups: Moslems, Christians, Druze, Bedouins, and Circassians. The results indicated that the Circassian adolescents had the lowest scores for total eating pathology and for most subscales of the EAT-26, whereas the Moslem adolescents had the highest scores (Bedouins, 19.4%; Moslems, 18.6%; Christians, 15.4%; Druze, 14.3%; and Circassians, 8.0%). Nevertheless, it should be noted that no significant differences were found between the groups in the EDI-DT. One possible explanation for these results may be related to other problems within the Moslem population that extend beyond disordered eating and are manifested in...
in lower self-esteem.\textsuperscript{36,37} The Christians in Israel are more educated, enjoy a higher socioeconomic status, and are more involved in Israeli culture.\textsuperscript{10}

The present results differ from those found in a recent study (Latzer et al. Comparative study of eating related attitudes and psychological traits between Israeli Arab and Jewish schoolgirls. Submitted), in which Israeli-Arab schoolgirls had lower scores (9.1\%) than those found in the current study (13\%) on the EDI-DT subscale, using the cut-off point of $\gg 14$ as a marker for eating pathology. Both groups had lower scores than those found among Saudi schoolgirls (16\%).\textsuperscript{25}

Nevertheless, it is interesting to note that all three groups of Arab women responded similarly on the core eating pathology subscales and that the differences among the groups were attributable to the noneating-related dimensions. Even the Moslem women, who supposedly belong to a more traditional culture, were indistinguishable from the other groups. These findings are interesting and possibly reflect significant cultural differences that may or may not be associated with eating pathology.

Although the current results are slightly lower than those found by Shore and Porter\textsuperscript{28} among Canadian female students of the same age group (Grades 7–12), they do provide support for research on abnormal eating attitudes in three other Islamic countries (Pakistan, Oman, and Turkey), using the Eating Attitude Test (EAT-26).\textsuperscript{38} It is important to emphasize that the results of all the subscale scores for the Israeli-Arab subgroups fall within the normal range for nonpatient groups, as established by the original Canadian sample and as presented in the EDI-2 manual.\textsuperscript{33} Due to the lack of population-based and patient-based research on anorexia nervosa and bulimia nervosa in non-Western or developing countries, it is difficult to estimate the real prevalence of eating disorders among Arab populations.\textsuperscript{39}

A recent sociocultural profile of patients seeking ED treatment who were referred to the larger eating disorder outpatient clinics in the northern part of Israel showed that the Arab population had low representation (3\% of 1,000 patients who were referred between the years 1992–2002) in comparison with the Israeli population (20\%, 1.5 million) (Latzer et al. Socio cultural characteristics of ED patients in out patient clinic: A descriptive epidemiological study. Submitted).

Several researchers have attributed such a low incidence to different attitudes toward beauty in Arab culture, where plumpness is considered to be attractive and a symbol of feminine nurturance.\textsuperscript{5,15,40} Various other factors may also account for these discrepancies: differences in help-seeking characteristics\textsuperscript{41}, the stigma attached to seeking help from sources outside the family support network; the level of knowledge about eating disorders and eating disorder treatment facilities; and the sociocultural changes that the Israeli-Arab population is undergoing due to the Western-oriented influence of modern life in Israel.\textsuperscript{41}

The low incidence of eating disorders may also represent an interesting cultural phenomenon characteristic of other minority groups in terms of disclosure patterns for eating disorders. In line with the research demonstrating the influence of ethnicity on help-seeking characteristics, two recent studies showed low rates of treatment seeking in an ethnically diverse sample of individuals with eating disorders.\textsuperscript{42,43} Another study found that black women were significantly less likely than white women to have received treatment for binge eating disorders.\textsuperscript{44} Moreover, a recent study indicated that physicians were significantly less likely to inquire about eating disorder symptoms among ethnic minorities than among nonminority patients.\textsuperscript{45}

The Arabs in Israel are raised with a fundamental conflict between two very different systems of values and perspectives: Western/modern and traditional.\textsuperscript{46} The current results may reflect such a conflicting value system. It may be that the degree of resemblance between the schoolgirls’ eating behaviors and preoccupations and the morbid behaviors diagnosed as eating disorders is dependent upon the degree of exposure to Western/modern body ideals and the presence of conflict between modern and traditional values in relation to the female role.\textsuperscript{47,48} Support for this explanation is provided by recent studies of eating disturbances in both Eastern and Western societies,\textsuperscript{35,49} demonstrating the ways in which women may employ food denial as an instrumental means of negotiating the conflict between two worlds—whether it be a generational conflict, a work–family conflict, or a conflict between traditional and modern cultures.

The study has some important strengths, including the large sample size and use of the clusters sampling method for different areas of Israel, different types of residences, different religious subgroups, and different age subgroups. However, several limitations of this study should be noted. Most importantly, the screening instrument used (EDI-2) was developed for use with Western/modern populations; hence, it cannot be assumed that it will perform the same task and with the same level of efficiency in a different cultural context. This
assumption is supported by the low Cronbach Alpha coefficient results found for some of the subscales. In addition, the items on the questionnaire may be interpreted in a different manner than intended. Thus, symptoms associated with eating disorders in other cultures may not be properly identified and it might need to create measures that have stronger psychometric properties for the Arab population.

Now that this study has identified the eating-related attitudes, preoccupations, and psychological traits among Arab schoolgirls in Israel, further epidemiological studies should be conducted, including clinical interviews. Moreover, further screening and assessment of the prevalence of eating disorder symptoms among primary health care clinics in the Arab population should be undertaken.

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References


