# Risk Factors for Eating Disorders Among Jewish and Arab Young Adults

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**Abstract:** The prevalence of eating disorders (EDs) has been steadily increasing in recent years during young adulthood. Therefore, there is great importance in examining the factors that increase the risk of developing EDs among young people. The innovation of the current study is an examination of a series of risk factors: differentiation of self which is a central family factor, culture, gender, BMI and other background factors. Of the 859 participants (670 females, mean age 26.8), 440 were Jewish and 419 were Arab. Participants completed the Eating Attitudes Test (EAT-26), the Differentiation of Self-Revised (DSI-R) questionnaire (including four dimensions: emotional reactivity, I-position, emotional cutoff, fusion with others), BMI and background questionnaires. Results revealed that Jewish participants had significantly lower dieting, bulimia, and total EAT-26 scores than their Arab counterparts, while Jewish female participants had higher dieting and lower emotional cutoff scores than Jewish male participants. In addition, Jews who reported higher levels of risk of EDs had higher levels of BMI, emotional reactivity, emotional cutoff and fusion with others. Arabs who reported higher levels of risk of EDs, had higher levels of BMI and emotional cutoff, and lower levels of I-position. Additionally, among Jewish participants increased BMI enhanced the risk of both bulimia and oral control, while for Arab participants increased BMI reduced the risk of oral control. The results of the current research indicate specific family, BMI and background dimensions that increase the risk of EDs among young adults of two cultures and both genders.

**Keywords:** Eating Disorders, Risk Factors, Young Adults, Jews, Arabs

## 1. Introduction

Eating disorders (EDs) have become a global phenomenon over the last five decades [27] with a consistent rise in incidence among males and females in both Western e.g. [26, 46] and non-Western countries e.g. [19, 20]. Of the factors that may increase risk of EDs, one of the most important is the family, particularly the possible role played by poor differentiation of self (DoS) – a major family pattern that contributes to mental and physical health [8].

Although EDs are profoundly affected by familial antecedents, the role of these factors in the etiology of EDs has not been sufficiently explored. Recent studies have indicated that the influence of sociocultural factors on eating problems is complex; moreover, findings are contradictory and have been derived mostly from studies of female

adolescents and young adults (under age 25) [12]. As EDs can impair physical and mental health and lead to high rates of mortality, their early detection is essential for preventing complications and increasing chances of recovery (e.g., [35]). One way to promote early detection is to uncover the major factors that increase vulnerability to EDs. The present study aims to examine the extent to which poor DoS is such a factor. The study was conducted among both genders and two cultural groups: Israeli Jews, belonging to a majority group characterized as a Western society, and Israeli Arabs belonging to a minority group with Eastern characteristics.

### 1.1. EDs and the Family

EDs consist of the range of psychological disorders characterized by abnormal or disturbed eating behaviors as defined by the DSM-5 [1, 43] EDs frequently begin in

adolescence, with mean age of diagnosis at 17–18 years, and often continue into adulthood, with full recovery estimated for only half of adolescent patients. Since many EDs are not diagnosed, these estimates are likely underrepresented measures of true incidences. This is particularly true of males as ED measures and diagnostic criteria were initially developed for females [44].

The view common to the last five decades that EDs are related solely to the thin ideal has recently been replaced with an understanding of the interaction between genetic [14, 41, 42], cultural, social [28, 43]; and familial [31] risks. When the individual's genetic predispositions interact with familial environment, the possibility of developing EDs increases [44]. Several family factors may be involved in the etiology of EDs, such as lack of familial support or control, parental pressures, family discord, lack of parental care, changes in family structure (e.g., a parent leaving, a step-parent entering the family), low parental contact, greater family criticism about shape and weight [31], low cohesion and emotional reliance on another person [25, 36], authoritarian parenting style [31], and early childhood abuse [5, 34].

One of the most interesting family factors is the possible role that poor DoS plays in EDs [32, 35]. DoS is an important family pattern, shaped by one's family of origin and likely to be a regulating factor of psychological and physical health. At the interpersonal level, DoS is defined as the ability to balance intimacy and autonomy. At the intrapersonal level, it is defined as the ability to balance rational thinking and emotions; poor DoS in the intrapersonal realm may lead to difficulties in recognizing emotional situations and expressing one's own emotions [6]. DoS includes four metrics: emotional reactivity – the tendency to feel emotionally overwhelmed in stressful situations; I-position – the ability to express feelings, desires and needs even when external pressure is applied; emotional cutoff – the tendency to disengage physically or emotionally and avoid sharing emotions when the fear of intimacy increases; and fusion with others – the tendency to create dependent relationships with blurred boundaries [6, 18].

Regarding cultural differences in DoS, several studies in Israel found differences between Arabs and Jews. For example, Arab Druze mothers reported higher levels of I-position and fusion with others than Jewish mothers, and Muslim and Christian Arabs reported higher levels of emotional cutoff, while Jews reported higher levels of emotional reactivity and fusion with others [31]. In terms of gender differences, females reported higher levels of emotional reactivity and fusion with others than males, whereas males reported higher levels of emotional cutoff than females [14, 30, 38].

A growing body of empirical evidence links DoS to physical health and psychological well-being (e.g., [33]. However, the contribution of DoS to the risk of EDs has only been examined in a small number of studies that have yielded inconsistent results. A few studies showed that individuals in young and middle adolescence at high risk of EDs reported low levels of DoS [9, 31. (Author et al., 2018; Doba et al., 2014) and high levels of distress and alexithymia [45]. In addition, associations were found between DoS and BMI [6]. However, in another study the association between DoS and EDs did not reach significance and did not moderate the relationship between overall functioning and BMI [15]. It appears that DoS 'contribution to the risk of Eds in different cultures is not clear enough and merits further research.

## 1.2. EDs and Cultural Diversity

Extant research demonstrates that EDs are culture bound, and that there are racial and ethnic differences in type-specific prevalence and symptomology (e.g., [43]. Ethnic diversity has recently become a major focus of ED research. In Western countries, the prevalence among college students is about 25%, 0.5–1% for Anorexia Nervosa, 1–2% for Bulimia Nervosa, and 1–3.5% for binge eating disorder (BED) [43] . In non-Western countries inconsistent results were found among college students, for example, 11%-13% in Malaysia [7], 32. 8% in Morocco [4, 36], and 34% in Saudi Arabia [11]. Further evidence has emerged supporting the relationship between higher levels of ED symptoms and acculturation stress, as well as investment in appearance ideals. In addition, it was reported that ethnic minority females are less likely to receive a diagnosis or treatment for EDs [22]. Although cross-cultural diversity in EDs has been reported in a series of studies, there remains a dearth of knowledge on specific differences in EDs across cultural groups, particularly in Israel [21]. For example, cultural differences were found in understanding the items of the EAT-26 questionnaire. Also, various factors have been found that may increase the risk of EDs in different cultures (e.g., [43]).

Israeli society provides a unique opportunity to study the role of sociocultural parameters in the development of mental and physical health because of its exceptional diversity [10]. Israel includes different subcultures, some religions as well as majority and minority groups. Israel includes collectivist and individualist cultures and majority and minority groups [32] (. Approximately 20.9% of the Israeli population is Arab, comprising three main religious groups: Muslims, Christians, and Druze. It has been suggested that EDs might be perceived and experienced differently among Israeli Arabs, and that typical features of the majority group (Israeli Jews) cannot always be applied to this minority group. Indeed, several studies in Israel have pointed to a higher rate of EDs among Arabs than Jews, and one study reported that Israeli-Arab schoolgirls scored significantly higher than Israeli-Jewish schoolgirls with respect to most aspects of EDs [32].

Although Arab society in Israel is more collectivist than the Jewish population, on the whole, the former is undergoing a transition from traditionalism to modernization. This process is manifested in changes in the economy, education, the status of women and family structure. An attempt has been made to mimic the norms of Western culture without really integrating them, such that most Arabs living in Israel are considered bicultural. The accelerated urbanization process in Arab society, and the fact that this group is a minority, is accompanied by increased levels of

distress, as well as changes in family patterns, lifestyle and dietary habits, leading to the conversion of traditional carbohydrate-rich foods into foods rich in simple carbohydrates. Regarding issues of body image, Arab society is, on the one hand, conservative, and in general its population does not believe in the ideal of thinness. On the other hand, Israeli Arabs are exposed to Western Jewish culture and social media that present different norms of ideal thinness and nutrition [10]. All this may explain the increased pressure in Arab society in Israel, as well as the change in eating habits that may increase the risk of EDs.

### 1.3. Research Objectives and Hypotheses

This research addresses an important gap in the literature, adopting an ethnic comparative perspective to explore the involvement of DoS in EDs among two Israeli cultural groups (Jews and Arabs) and both genders. The influence of sociocultural factors on eating problems is complex, fraught with inconsistent findings, and derived primarily from studies of female adolescents and emergent adults (under age 25). There is a paucity of research investigating sociocultural factors that may enhance the risk of EDs among young adults. Moreover, despite evidence that DoS is a central factor that may increase vulnerability to certain physiological pathologies, such as EDs, there is scant research on this topic. Finally, to the best of our knowledge, the few studies that have addressed this topic in Israel did so among Jewish and Arab adolescents and did not examine cross-cultural differences in the relationships between DoS and EDs. Such an in-depth and comprehensive understanding may provide a profile characterizing the risk of EDs in each cultural group.

In light of these findings, we expected Arabs to report higher levels of risk of EDs (dieting, bulimia and food preoccupation, oral control, total EAT-26 score) and emotional cutoff, and lower levels of emotional reactivity and fusion with others than Jews (Hypothesis 1). Based on the above-mentioned results regarding gender differences, we assumed that females would report higher levels of EDs, emotional reactivity and fusion with others, whereas males would report higher levels of emotional cutoff (Hypothesis 2). Finally, in light of findings suggesting that poor DoS may increase vulnerability to EDs, we assumed that the risk of EDs would be positively associated with poor DoS (high emotional reactivity, low I-position, high emotional cutoff, and high fusion with others) (Hypothesis 3).

## 2. Method

### 2.1. Participants

A convenience sample of 1086 non-clinical participants was recruited during the years 2018-2019 via cluster sampling in two colleges located in northern Israel, one with a majority of Jewish students and the other with a majority of Arab students. At the Jewish college, questionnaires were distributed to undergraduate students in the departments of education, economics, social work and computers. At the Arab college, questionnaires were given to undergraduate students in the departments of education, teaching, mathematics and computers. Inclusion criteria were young adults (aged 18–30) with parents who were married (or living together).

Of the 1086 individuals, we excluded 225 participants who were younger than 18, one respondent who did not indicate gender and another who completed less than half the questionnaire. Thus, the final sample consisted of 859 (79%) participants (670 females, 189 males, mean age 26.8, SD = 5.6, range 18-30 years; 94.1% native born). Of them, 440 (51.2%) were Jewish and 419 were Arab (48.8%). Mean BMI was 23.85; SD = 4.31, 17.9% of the participants were overweight (25<BMI<30), 6.4% were obese (>30), 4.3% were underweight (BMI<18.5), 413 (48%) had normal weight and the remaining 200 did not report their weight.

### 2.2. Instruments

*A Demographic Questionnaire* was constructed for the purpose of the current study, including details regarding age, BMI, gender, cultural group and the like.

*The Differentiation of Self Inventory-Revised* (DSI-R, [39, 40]), validated and translated to Hebrew [29], was used to examine levels of DoS. The DSI-R includes 46 items divided into four subscales: emotional reactivity, I-position, emotional cutoff and fusion with others (sample item: "I'm overly sensitive to criticism"). Participants rank each item on a scale of 1 (not at all like me) to 6 (very much like me). Subscale scores are calculated by averaging the mean scores of the items in each subscale. Greater DoS is indicated by lower means for emotional reactivity, emotional cutoff and fusion with others, and by higher means for I-position. The emotional reactivity and emotional cutoff subscales had good reliability (Cronbach's alpha = .871, .830, respectively), while I-position and fusion with others subscales had acceptable reliability (Cronbach's alpha = .781, .731, respectively).

The Eating Attitude Test (EAT-26 [13]) is widely used as a screening instrument measuring risk of developing eating attitudes in large non-clinical populations. This measure describes disordered attitudes and behaviors related to eating. While the test does not allow for a specific diagnosis of EDs, it can help identify those requiring additional assessment for EDs. The questionnaire has been confirmed as a reliable and valid instrument in English, Hebrew [16] and Arabic [2] It consists of 26 items scored along a three-point Likert scale (0-3), yielding a possible range of 0-78 points. The EAT-26 includes three subscales – dieting; bulimia and food preoccupation (hereafter bulimia); and oral control – as well as a total score. Total scores of 20 or higher indicate elevated body shape and weight concerns and can be used to identify those participants at high risk of developing EDs. In the current study, the entire questionnaire and the dieting subscale had good reliability (Cronbach's alpha = .891, .834, respectively) and the bulimia and oral control subscales had acceptable reliability (Cronbach's alpha = .758,.677, respectively). The instrument has been confirmed as a reliable and valid instrument in English, Hebrew and Arabic.

## 2.3. Procedure

The complete study protocol was approved by the College Institutional Review Board on 9.12.2019, and the approval number is 3601010170. All participants signed an informed consent form (the first page of the questionnaire). Completion of the questionnaires in two colleges was voluntary. Participants were told we were interested in what they thought about some nutrition and family issues. They were promised anonymity and discretion, and were informed that they could stop filling out the questionnaires at any time.

## 2.4. Statistical Methods

The assumption of approximate normality was assessed by computation of skewness and kurtosis of the variables of interest. Missing BMI (n=200) was imputed by linear regression (SPSS multiple imputation) using culture, gender and age as predictors. Pooled BMI was used in the statistical analyses.

To examine gender and cultural differences, multivariate two-way ANOVAs were performed to assess the effects of culture and gender on the four metrics of DoS, the three EAT-26 subscales and its total score. In addition, to determine whether there was a relationship between risk of EDs, continuous demographic variables (age and BMI) and DoS, Pearson correlations were performed. Hierarchical regression analyses – with age and gender forced into the model, BMI in the first step and DoS subscales in the second step – were run within each culture to find predictors of the EAT-26 total score and its three subscales in each cultural group separately. All analyses were performed using IBM SPSS (version 24). Significance was set at $p < .05$.

# 3. Results

## 3.1. Preliminary Analyses

The study variables (of the EAT-26 and the DSI-R) were approximately normally distributed, with skewness and kurtosis at ±1.2. Participants reported total EAT-26 scores ranging between 0 and 63, with 245 (28.5%) reporting a positive score (≥20), indicating high risk of developing EDs. Table 1 presents the high risk of developing EDs by demographic variables. Participants at high risk (positive score) tended to have a higher BMI ($p < .06$) than their counterparts with lower risk of EDs (total score<20). The tendency for positive scores (high risk) was greater for Arabs than Jews (total score≥20; $p = .005$).

**Table 1.** Demographic characteristics by risk of developing eating disorders, t-test and $X^2$ between groups (N=859).

|  | Positive EAT-26 score (≥20) (N=245) | Negative EAT-26 score (<20) (N=614) | t | p |
|---|---|---|---|---|
|  | Mean (SD) | Mean (SD) |  |  |
| Age | 26.30 (5.5) | 27.00 (5.6) | 1.63 | .09 |
| BMI | 24.36 (4.67) | 23.60 (4.13) | -2.16 | .04 |
| Imputed BMI | 24.19 (4.67) | 26.99 (4.47) | -1.92 | .06 |
|  | N (%) | N (%) | $X^2$ |  |
| Gender |  |  | 0.50 | .48 |
| Male | 50 (26.5%) | 139 (73.5%) |  |  |
| Female | 195 (29.1%) | 475 (70.9%) |  |  |
| Culture |  |  | 7.81 | .005 |
| Jewish | 107 (24.3%) | 333 (75.7%) |  |  |
| Arab | 138 (32.9%) | 281 (67.1%) |  |  |

## 3.2. Main Findings

Table 2 presents the distribution of DSI-R and EAT-26 scores by culture and gender.

**Table 2.** Means, standard deviations and ranges for differentiation of self and risk of eating disorders by gender and culture (N= 859).

|  |  | Total | | | | Jewish (n=440) | | Arab (n=419) | |
|---|---|---|---|---|---|---|---|---|---|
|  |  | Mean (SD) | Range | Skew | Kurtosis | Mean (SD) | Range | Mean (SD) | Range |
| **DSI-R** |  |  |  |  |  |  |  |  |  |
| Emotional reactivity | All | 3.53 (0.99) | 1.09-6.00 | 0.13 | -0.42 | 3.62 (1.02) | 1.45-6.00 | 3.44 (0.97) | 1.09-6.00 |
|  | Male | 3.19 (0.92) | 1.18-6.00 | 0.65 | 0.74 | 3.26 (0.97) | 1.45-6.00 | 3.14 (0.88) | 1.18-6.00 |
|  | Female | 3.63 (0.99) | 1.09-6.00 | -0.00 | -0.48 | 3.68 (1.00) | 1.45-6.00 | 3.56 (0.97) | 1.09-6.00 |
| I-position | All | 4.00 (0.79) | 1.36-6.00 | -0.03 | -0.40 | 4.11 (0.81) | 1.36-6.00 | 3.88 (0.75) | 1.82-5.73 |
|  | Male | 3.96 (0.75) | 1.82-6.00 | -0.11 | -0.33 | 4.14 (0.74) | 2.36-6.00 | 3.85 (0.74) | 1.82-5.64 |
|  | Female | 4.01 (0.80) | 1.36-5.91 | -0.02 | -0.42 | 4.11 (0.83) | 1.36-5.91 | 3.89 (0.76) | 1.91-5.73 |
| Emotional cutoff | All | 2.75 (0.91) | 1.00-5.33 | 0.26 | -0.43 | 2.49 (0.82) | 1.00-5.00 | 3.02 (0.89) | 1.00-5.33 |
|  | Male | 2.97 (0.81) | 1.08-4.75 | -0.06 | -0.57 | 2.86 (0.75) | 1.25-4.50 | 3.03 (0.84) | 1.08-4.75 |
|  | Female | 2.69 (0.92) | 1.00-5.33 | 0.37 | -0.32 | 2.42 (0.84) | 1.00-5.00 | 3.02 (0.92) | 1.00-5.33 |
| Fusion with others | All | 3.71 (0.74) | 1.83-6.00 | 0.04 | -0.19 | 3.72 (0.69) | 1.83-6.00 | 3.70 (0.78) | 1.83-5.75 |
|  | Male | 3.49 (0.70) | 1.92-5.17 | -0.08 | -0.45 | 3.53 (0.63) | 2.00-5.00 | 3.47 (0.74) | 1.92-5.17 |
|  | Female | 3.78 (0.73) | 1.83-6.00 | 0.05 | -0.17 | 3.76 (0.69) | 1.83-6.00 | 3.79 (0.78) | 1.83-5.75 |
| **EAT-26** |  |  |  |  |  |  |  |  |  |
| Dieting | All | 0.60 (0.56) | 0.00-2.92 | 1.22 | 1.10 | 0.55 (0.53) | 0.00-2.69 | 0.66 (0.59) | 0.00-2.92 |
|  | Male | 0.54 (0.52) | 0.00-2.23 | 1.19 | 0.80 | 0.41 (0.48) | 0.00-1.92 | 0.62 (0.52) | 0.00-2.32 |
|  | Female | 0.62 (0.57) | 0.00-2.92 | 1.22 | 1.11 | 0.57 (0.54) | 0.00-2.69 | 0.68 (0.61) | 0.00-2.92 |

| | | Total | | | | Jewish (n=440) | | Arab (n=419) | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean (SD) | Range | Skew | Kurtosis | Mean (SD) | Range | Mean (SD) | Range |
| Bulimia | All | 0.49 (0.56) | 0.00-3.00 | 1.21 | 1.10 | 0.44 (0.49) | 0.00-2.00 | 0.55 (0.62) | 0.00-3.00 |
| | Male | 0.49 (0.61) | 0.00-2.50 | 1.36 | 1.26 | 0.35 (0.52) | 0.00-2.00 | 0.57 (0.64) | 0.00-2.50 |
| | Female | 0.50 (0.55) | 0.00-3.00 | 1.15 | 1.01 | 0.46 (0.48) | 0.00-2.00 | 0.54 (0.62) | 0.00-3.00 |
| Oral control | All | 0.59 (0.54) | 0.00-2.71 | 1.03 | 0.70 | 0.54 (0.49) | 0.00-2.71 | 0.64 (0.60) | 0.00-2.71 |
| | Male | 0.58 (0.56) | 0.00-2.43 | 1.13 | 0.86 | 0.57 (0.54) | 0.00-2.43 | 0.59 (0.56) | 0.00-2.43 |
| | Female | 0.59 (0.54) | 0.00-2.71 | 1.00 | 0.67 | 0.53 (0.48) | 0.00-2.71 | 0.65 (0.61) | 0.00-2.71 |
| Total | All | 14.63 (12.04) | 0.00-63.00 | 1.22 | 1.32 | 13. 18(10.55) | 0.00-63.00 | 16.16 (13.27) | 0.00-63.00 |
| | Male | 13.03 (12.53) | 0.00-54.00 | 1.21 | 1.82 | 11.39 (11.12) | 0.00-48.00 | 15.58 (13.08) | 0.00-54.00 |
| | Female | 14.80 (11.91) | 0.00-63.00 | 1.24 | 1.51 | 13.52 (10.42) | 0.00-63.00 | 16.38 (13.36) | 0.00-63.00 |

Two-way MANOVAs of the four DSI-R subscales revealed statistically significant main effects of culture [F $(4,851)=17.14$, $p < .001$, partial eta = .075], gender [F $(4,851)=17.92$, $p < .001$, partial eta = .078] and the interaction between them [F $(4,851)=2.94$, $p < .02$, partial eta = .014]. Between-participant tests yielded statistically significant cultural effects for I-position and emotional cutoff; gender effects for emotional reactivity, emotional cutoff and fusion with others; and a significant interaction for emotional cutoff (Table 3). Specifically, Jewish participants had higher I-position and lower emotional cutoff than Arabs, while female participants had significantly higher emotional reactivity and fusion with others, and lower emotional cutoff, than their male counterparts. Post-hoc testing of the interaction revealed that Jewish female participants reported statistically significant lower emotional cutoff than Jewish male participants, while there was no significant difference in reported emotional cutoff between Arab males and females. The first and second hypotheses, regarding cultural and gender differences in the study variables, were thus partially supported.

**Table 3.** Culture and gender differences in risk of eating disorders: Values of F for analyses of variance (two-way ANOVAs).

| | Culture | | | Gender | | | Culture*Gender | | |
|---|---|---|---|---|---|---|---|---|---|
| | F (1,854) | p | Partial eta$^2$ | F (1,854) | p | Partial eta$^2$ | F (1,854) | p | Partial eta$^2$ |
| DSI-R | | | | | | | | | |
| Emotional reactivity | 2.09 | .15 | .01 | 25.88 | .001 | .03 | 0.00 | .98 | .00 |
| I-position | 13.89 | .001 | .02 | 0.02 | .90 | .00 | 0.31 | .58 | .00 |
| Emotional cutoff | 27.61 | .001 | .03 | 9.81 | .002 | .01 | 8.60 | .003 | .01 |
| Fusion with others | 0.02 | .89 | .00 | 20.15 | .001 | .02 | 0.46 | .50 | .00 |
| EAT-26 | | | | | | | | | |
| Dieting | 11.17 | .001 | .01 | 5.42 | .02 | .01 | 0.99 | .32 | .00 |
| Bulimia | 10.26 | .001 | .01 | 0.73 | .39 | .00 | 2.35 | .12 | .00 |
| Oral control | 2.18 | .14 | .00 | 0.07 | .79 | .00 | 1.22 | .27 | .00 |
| Total | 12.14 | .001 | .02 | 2.10 | .15 | .00 | 0.43 | .51 | .00 |

MANCOVA of the risk of EDS revealed a statistically significant main effect of culture [F $(3,852)=4.30$, $p < .005$, partial eta = .015], as well as a borderline statistically significant main effect of gender [F $(3,852)=2.25$, $p < .08$, partial eta = .008] and of the interaction between culture and gender [F $(3,852)=2.26$, $p < .08$, partial eta = .008]. Between-participant tests revealed a statistically significant cultural effect for dieting and bulimia, and a statistically significant gender effect for the dieting subscale. Jewish participants had significantly lower dieting and bulimia scores than their Arab counterparts, while female participants had higher dieting scores than male participants. A two-way ANOVA of the total EAT-26 score revealed only a statistically significant main effect of culture [F $(1,854)=12.14$, $p < .001$, partial eta = .014], with Jewish participants having significantly lower scores than Arab participants (see Table 3).

Pearson correlations between the DSI-R and EAT-26 subscales, as well as age and BMI (Table 4), revealed that the EAT-26 total score, dieting subscale and bulimia subscale were positively associated with emotional reactivity and emotional cutoff, and negatively associated with I-position. Oral control was also negatively correlated with I-position. Fusion with others was positively associated with dieting and bulimia. Age was negatively correlated with the EAT-26 total score and the oral control subscale, and BMI was positively correlated with the bulimia subscale. The third hypothesis was thus partially corroborated.

**Table 4.** Pearson correlations of the EAT-26 (total and subscales) with DSI-R subscales, age and BMI (N=859).

| | Total | Dieting | Bulimia | Oral control |
|---|---|---|---|---|
| Emotional reactivity | .13** | .15** | .107* | .04 |
| I-position | -.17** | -.16** | -.151** | -.11* |
| Emotional cutoff | .17** | .15** | .178** | .09 |
| Fusion with others | .08 | .10* | .100* | .00 |
| Age | -.09* | -.07 | -.025 | -.10* |
| BMI[1] | .04 | .05 | .104* | -.06 |

[1]pooled * $p < .01$ **$p < .001$.

Table 5 presents the hierarchical regression. Analyses revealed that, among Jewish participants, BMI was a significant demographic predictor of EAT-26, and emotional reactivity and emotional cutoff were significant DSI-R measures: increased emotional reactivity and emotional cutoff increased the EAT-26 total score. In contrast, among Arab participants, BMI was not a significant predictor, while I-position and emotional cutoff were significant DSI-R predictors. Increased I-position decreased the EAT-26 total score while increased emotional cutoff increased it. Thus, the third hypothesis that the risk of EDs, as measured by the EAT-26, would be positively associated with poor DoS was partially confirmed for both Jewish and Arab participants. Comparison of the slopes (beta coefficients) between the Jewish and Arab hierarchical models revealed borderline statistically significant differences in fusion with others [$t(839)=1.87$, $p < .06$] and I-position [$t(839)=1.86$, $p < .06$]. The association between fusion with others and EAT-26 was in opposite directions for Jews (beta = 1.541) and Arabs (beta = -1.421). There tended to be a stronger association between I-position and the risk of EDs among Arabs (beta = -2.554) than Jews (beta = -0.503). No statistically significant differences were found in the strength of association between Arabs and Jews in emotional reactivity and emotional cutoff or BMI.

**Table 5.** *Hierarchical regression analyses with DSI-R subscales as independent variables and total EAT-26 score as dependent variable.*

| Demographics | Total EAT-26 | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Jewish (N=440) | | | | Arab (N=419) | | | |
| | Beta | SE | p | partial $R^2$ | Beta | SE | p | partial $R^2$ |
| Age | -.13 | .10 | .20 | --- | -.24 | .12 | .05 | --- |
| Gender | 2.71 | 1.39 | .05 | --- | 1.03 | 1.49 | .49 | --- |
| BMI[1] | .32 | .13 | .02 | .02 | .07 | .20 | .74 | .01 |
| DSI-R | | | | | | | | |
| Emotional reactivity | 1.40 | .68 | .04 | .07 | -0.08 | 1.14 | .94 | .00 |
| I-position | -0.50 | .69 | .46 | .00 | -2.55 | .87 | .01 | .02 |
| Emotional cutoff | 1.59 | .63 | .01 | .02 | 2.32 | .92 | .01 | .01 |
| Fusion with others | 1.54 | 0.95 | .11 | .01 | -1.42 | 1.26 | .26 | .002 |
| Model | | | | | | | | |
| F | | 8.14 | | | | 2.81 | | |
| Adj $R^2$ | | .09 | | | | .03 | | |
| p | | .00 | | | | .01 | | |

[1]pooled

Examination of the three subscales of EAT-26 (Table 6) revealed that, for Jewish participants, BMI was a significant predictor of scores on the bulimia and oral control subscales. Increased BMI was associated with increased subscale measures. Among Arab participants, BMI predicted the oral control subscale: in contrast to Jewish participants, increased BMI was associated with decreased oral control. With respect to the relation between DoS and the risk of EDs, for Jewish participants, emotional reactivity and emotional cutoff predicted the dieting subscale and emotional cutoff and fusion with others predicted the bulimia subscale; none of the DSI-R components predicted oral control. Among Arab participants, I-position predicted the dieting and bulimia subscales, and emotional cutoff predicted the bulimia and oral control subscales. Emotional cutoff approached significance for the dieting subscale ($p = .07$).

**Table 6.** *Hierarchical regression analyses with DSI-R subscales as independent variables and EAT-26 subscales as dependent variable.*

| Demographics | Dieting | | | | | | | | Bulimia | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Jewish (N=440) | | | | Arab (N=419) | | | | Jewish (N=440) | | | | Arab (N=419) | | | |
| | Beta | SE | p | Part $R^2$ | Beta | SE | p | Part $R^2$ | Beta | SE | p | Part $R^2$ | Beta | SE | p | Part $R^2$ |
| Age | -.01 | .01 | .13 | -- | -.01 | .006 | .08 | -- | -.00 | .01 | .62 | -- | -.01 | .01 | .58 | -- |
| Gender | .17 | .07 | .01 | -- | .09 | .07 | .17 | -- | .14 | .64 | .03 | -- | -.03 | .07 | .64 | -- |
| BMI | .01 | .01 | .14 | -- | .01 | .010 | .22 | -- | .02 | .01 | .01 | .03 | .01 | .01 | .21 | .01 |
| DSI-R | | | | | | | | | | | | | | | | |
| ER | .07 | .04 | .05 | .06 | .05 | .05 | .38 | .01 | .03 | .03 | .43 | .00 | -.06 | .05 | .30 | .00 |
| IP | -.04 | .04 | .31 | .00 | -.10 | .04 | .01 | .01 | .02 | .03 | .50 | .00 | -.17 | .04 | .00 | .03 |
| EC | .06 | .03 | .05 | .01 | .08 | .04 | .07 | .01 | .09 | .03 | .002 | .04 | .15 | .04 | .00 | .03 |
| FO | .07 | .05 | .19 | .01 | -.08 | .06 | .14 | .01 | .10 | .05 | .03 | .02 | -.01 | .06 | .87 | .00 |
| Model | | | | | | | | | | | | | | | | |
| F | | 6.72 | | | | 2.60 | | | | 7.31 | | | | 4.70 | | |
| Adj R2 | | .08 | | | | .03 | | | | .09 | | | | .06 | | |
| p | | .00 | | | | .01 | | | | .00 | | | | .00 | | |

***Table 6.** Continued.*

| Demo-graphics | Oral control | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Jewish (N=440) | | | | Arab (N=419) | | | |
| | Beta | SE | p | Part R$^2$ | Beta | SE | p | Part R$^2$ |
| Age | .00 | .01 | .60 | -- | -.01 | .01 | .06 | -- |
| Gender | -.02 | .06 | .78 | -- | .019 | .07 | .77 | -- |
| BMI | .01 | .01 | .03 | .018 | -.03 | .01 | .00 | .02 |
| DSI-R | | | | | | | | |
| ER | .06 | .03 | .08 | .03 | -.04 | .05 | .41 | .00 |
| IP | -.03 | .03 | .40 | .00 | -.05 | .04 | .23 | .00 |
| EC | .03 | .03 | .26 | .01 | .08 | .04 | .05 | .00 |
| FO | .02 | .05 | .61 | .00 | -.07 | .06 | .19 | .01 |
| Model | | | | | | | | |
| F | | 3.46 | | | | 4.61 | | |
| Adj R2 | | .04 | | | | .06 | | |
| p | | .00 | | | | .00 | | |

Note: ER=emotional reactivity; IP=I-position; EC=emotional cutoff; FO=fusion with others.

Comparison of the beta coefficients (via t-tests to compare slopes) from the Arab and Jewish regression models revealed a statistically significant difference in BMI for oral control [t(853)=3.70, p < .001] but not for the bulimia subscale (t(853)=0.70, p>.48). There were no statistically significant differences in DoS beta coefficients between Arabs and Jews for the dieting and oral control subscales. For the bulimia subscale, there was a statistically significant difference in I-position beta coefficients between Jews (beta = .021) and Arabs (beta = -.170) [t (853)=3.73, p < .001].

# 4. Discussion

This study investigated whether the risk of developing EDs (measured by EAT-26) is associated with poor DoS (low I-position and high levels of emotional reactivity, emotional cutoff, and fusion with others), and whether results differ by gender and culture. On the whole, results indicated that the risk of EDs was higher among Arabs than Jews and among females than males.

## 4.1. Cultural Differences

The present findings are in line with studies that have indicated a higher risk of EDs as measured by EAT-26 among Arab and female adolescents [31]. Arabs presented a higher risk of EDs (total EAT-26 score ≥20) and higher levels of dieting and bulimia than Jews, supporting previous studies (e.g., [22]) and corroborating Hypothesis 1. One possible reason for this finding is that Arab society in Israel is undergoing a process of modernization, which often leads young Arabs to imitate the modern Western majority culture. They are exposed to messages in the media about the culture of thinness and the ideal of beauty and tend to behave in accordance with modern eating and fashion habits [21]. Another reason is that Arabs in Israel are a conservative minority group that still perceives mental health issues, including the risk of EDs, as a stigma accompanied by feelings of shame and discomfort. As they are less likely to seek treatment in public clinics than Jews, there may be many people who do not receive help in addressing EDs and

curbing their development; therefore, more Arab young adults may suffer from such disorders [31]. Another possibility, as suggested by [43]), is that the EAT-26 questionnaire might be perceived differently by different cultural groups. Future studies are therefore recommended using an additional, more culturally suitable questionnaire.

Regarding DoS, Arab young adults reported lower levels of I-position and higher levels of emotional cutoff than their Jewish counterparts, in keeping with previous findings [31] and partially supporting Hypothesis 1. Arab society is characterized as collectivist, such that the family is highly involved in the lives of its members. In such circumstances, there is a possibility that emotional detachment may be a useful pattern for coping with daily challenges. Emotional cutoff may help preserve certain boundaries and allow for release. This finding can be likened to the claim that Arab men do not disclose their emotional states and worries due to social expectations to preserve a rough, macho appearance [10].

## 4.2. Gender Differences

The examination of gender differences showed that women reported higher levels of dieting, fusion with others, and emotional reactivity and a lower level of emotional cutoff than men, supporting previous findings [30] and partially confirming Hypothesis 2. An interaction effect was also found: Jewish women reported a lower level of emotional cutoff than Jewish men, whereas no gender differences were found among Arabs. This finding suggests that it is more difficult for both genders to express emotions in Arab society, whereas in Jewish society, similarly to other Western cultures, men are more likely to disengage and repress emotions while women tend to share their feelings.

## 4.3. Risk Factors for Eating Disorders

Our examination of the factors that may be associated with a high risk of EDs among each cultural group yielded interesting results. Among Arabs, high levels of emotional cutoff and low levels of I-position were found associated with a high risk of EDs. Low I-position was found associated

with a high risk of dieting and bulimia, and high emotional cutoff was associated with a high risk of bulimia and oral control. BMI was associated with decreased oral control, in contrast to Jewish participants, whose increased BMI enhanced bulimia and oral control. Among Jews, high levels of emotional cutoff were found associated with the EAT-26 total score. In addition, emotional reactivity and emotional cutoff predicted the dieting subscale and emotional cutoff and fusion with others predicted the bulimia subscale. It should be noted that emotional cutoff was found to be related to oral control only among Arabs. The association between DoS and the risk of EDs is worthy of further investigation.

The above results partially support Hypothesis 3, as well as earlier findings [8, 33] pointing to associations between the dimensions of DoS and ED symptoms. Specifically, our findings suggest that emotional cutoff may be associated with a high risk of developing EDs (EAT-26 total score and subscales) for Jews and Arabs alike. However, for Arabs more than Jews, low I-position – i.e., having difficulty expressing one's feelings, needs, and thoughts – was also found to be correlated with a high risk of EDs. In contrast, among Jewish participants, positive associations were observed between emotional reactivity and the total score of EAT-26 as well as the dieting subscale.

Interestingly, fusion with others was positively associated with a high risk of EDs only among Jews. This lack of relationship among Arabs is somewhat surprising given past findings. It is possible that in Arab society, which is characterized by greater involvement of the extended family, family members perceive very close relationships as a source of support rather than a source of pressure. This is perhaps because Arab society is conservative and collectivist, promoting very strong family ties rather than perceiving them as disruptive and distressing, as may be the case in Jewish society [10]).

A growing body of research has suggested that poor DoS is related to a high risk of EDs (e.g., [8, 32] A possible reason for this relationship is based on previous studies showing that eating is not based solely on the mechanism of hunger that signals when and how much to ingest, but is also activated by emotional and familial factors. This issue merits further investigation. An explanation of the relationship between I-position and EDs may be a lack of communicativeness in stressful interpersonal situations. As suggested, individuals at high risk of EDs may find it difficult to express their emotions and adhere to their feelings and beliefs; this may lead them to seek comfort in food [32]. It was suggested that low levels of DoS may increase confusion between one's own internal emotions and those of others, thereby decreasing the ability to identify emotions and share them with significant others [28]. This, in turn, can lead to a misunderstanding of emotional situations and to distress, which is likely to be expressed through extreme preoccupation with weight or eating [20]. In conclusion, it is likely that in distressing situations, individuals with high risk of EDs tend to disconnect rather than share with or gain support from significant others.

### 4.4. Limitations, Future Research, and Implications

This study has several limitations. First, given the cross-sectional nature of the research, any interpretation regarding causality should be made with caution. Longitudinal studies are needed to provide a more extensive basis for the suggested relationships between DoS and the risk of EDs. Second, the study did not examine increased tendencies for unhealthy behaviors, such as improper diet and the avoidance of physical activity. It is strongly recommended that a follow-up study examine these factors. Third, we used self-report questionnaires which might have been biased by social desirability. Fourth, the cluster sampling used may have created a bias in the representation of each of the cultures within the wider population. Future studies should conduct systematic sampling that represents the percentages of each cultural stratum in the population. Fifth, the large percentage of participants whose BMI data was missing, primarily due to omission of their reported weight, might have biased the results, as our imputation method could not account for differences between participants who were reluctant to report their weight and those who were willing to do so. However, even after removing all those who did not report their weight or eliminating BMI as a variable of interest, we still achieved similar results (not shown).

## 5. Conclusions

Notwithstanding these limitations, the results of the current study are unique, because they indicate the risk factors (specific family patterns, BMI and background dimensions) of EDs among young adults in two cultures and both genders. They revealed that Jewish participants had significantly lower dieting, bulimia, and total EAT-26 scores than their Arab counterparts, while Jewish female participants had higher dieting and lower emotional cutoff scores than Jewish male participants. In addition, Jews who reported higher levels of risk of EDs had higher levels of BMI, emotional reactivity, emotional cutoff and fusion with others. Arabs who reported higher levels of risk of EDs, had higher levels of BMI and emotional cutoff, and lower levels of I-position. Additionally, among Jewish participants increased BMI enhanced the risk of both bulimia and oral control, while for Arab participants increased BMI reduced the risk of oral control.

## 6. Recommendations

The findings may have clinical implications. They provide a foundation for training that can prevent and treat EDs. It is recommended that the training be done by Jewish and Arab psychologists, family therapists, dietitians, and doctors for the comprehensive treatment and prevention of EDs among young adults in both Western and non-Western societies. This is highly important in light of the claim that early detection and identification of risk factors of EDs is crucial for preventing complications and increasing recovery.

Interventions for alleviating EDs should be specifically tailored to address the difficulties associated with low DoS and high BMI in each cultural group.

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## References

[1] American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: Author.

[2] Al-Subaie, A., Al-Shammari, S., Bamgboye, E., Al-Sabhan K, Al-Shehri, S., & Bannah, A. R. (1996). Validity of the Arabic version of the Eating Attitude Test. International Journal of Eating Disorders, 20, 321-324. DOI: 10.1002/(SICI)1098-108X.

[3] Azzouzi, N., Ahid., S, Bragazzi, N. L., & Aarab, C., et al. (2019). Eating disorders among Moroccan medical students: Cognition and behavior. Psychological Research and Behavior Management, 12, 129-135. doi.org/10.2147/PRBM.S165114.

[4] Blackmore, V., Searight, H. &, Ratwik, S. H. (2011). The relationship between eating attitudes, body image and perceived family-of-origin climate among college athletes. North American Journal of Psychology, 14, 35-446.

[5] Buser, J. K., & Gibson, S. (2014). Differentiation and eating disorder symptoms among males. The Family Journal: Counseling & Therapy for Couples and Families, 22, 17-25. doi.org/10.1177/1066480713504903.

[6] Chan, Y. L., Samy, A. L., Tong, W. T., Islam, M. A., & Low, W. Y. (2020). Eating disorder among Malaysian university students and its associated factors. Asia Pacific Journal of Public Health, 32, 334-339. doi: 10.1177/1010539520947879.

[7] Doba, K., Berna, G., Constant, E., & Nandrino, J. L. (2018). Self-differentiation and eating disorders in early and middle adolescence: A cross-sectional path analysis. Eating Behavior, 29, 75-82. doi: 10.1016/j.eatbeh.2018.03.003.

[8] Doba, K., Nandrino, J. L., Dodin, V., & Antoine, P. (2014). Is there a family profile of addictive behaviors? Family functioning in anorexia nervosa and drug dependence disorder. Journal of Clinical Psychology, 70, 107-117. DOI: 10.1002/jclp.21977.

[9] Dwairy, M. (2019). Culture and leadership: Personal and alternating values within inconsistent cultures. International Journal of Leadership in Education: Theory &Practice, 22, 510-518. doi.org/10.1080/13603124.2017.1394498.

[10] Fatima, W., & Ahmad, L. M. (2018). Prevalence of disordered eating attitudes among adolescent girls in Arar City, Kingdom of Saudi Arabia. Health Psychology Research, 29, 7444. doi: 10.4081/hpr.2018.7444.

[11] Feinson, M. C., & Meir, A. (2014). Disordered eating & cultural diversity: A focus on Arab Muslim women in Israel. Eating Behavior, 15, 306-310. doi: 10.1016/j.eatbeh.2014.03.00441.

[12] Garner, D. M., Olmsted, M. P., Bohr, Y., & Garfinkel, P. E. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. Psychological Medicine, 12, 871-878. DOI: 10.1017/s0033291700049163.

[13] Hoek, H. W., & Van Hoeken, D. (2003). Review of the prevalence and incidence of eating disorders. International Journal of Eating Disorders, 34, 383-96. doi: 10.1002/eat.10222.

[14] Hooper, L. M., & Doehler, K. (2011). The mediating and moderating effects of differentiation of self on body mass index and depressive symptomatology among an American college sample. Counselling Psychology Quarterly, 24, 71-82. doi.org/10.1080/09515070.2011.559957.

[15] Ianuca, I. (1990). Validation of the EAT in Israel (doctoral dissertation). School of Medicine; Tel Aviv University, Israel.

[16] Kerr, M. E., & Bowen, M. (1988). Family evaluation: An approach based on Bowen theory. Norton.

[17] Kanakam, N. (2022). Therapists' experiences of working with ethnic minority females with eating disorders: a qualitative study. Culture, Medicine & Psychiatry, 46, 414-434. doi: 10.1007/s11013-021-09721-w.

[18] Latzer, Y., Weinberger-Litman, S., Spivak-Lavi, Z., & Tzischinsky, O. (2019). Disordered eating pathology and body image among adolescent girls in Israel: The role of sense of coherence. Community Mental Health Journal, 55, 1246–1252. doi: 10.1007/s10597-019-00446-0.

[19] Latzer, Y., Azaiza, F., & Tzischinsky, O. (2009). Eating attitudes and dieting behavior among religious subgroups of Israeli-Arab adolescent females. Journal of Religious Health, 48, 189-199. doi: 10.1007/s10943-008-9189-7.

[20] Latzer, Y., Tzischinsky, O., & Azaiza, F. (2007). Disordered eating related behaviors among Arab schoolgirls in Israel: An epidemiological study. International Journal of Eating Disorders, 40, 263-270. doi.org/10.1002/eat.20348.

[21] Le Grange, D., Lock, J., Loe, K., & Nicholls, D. (2010). Academy for eating disorders position paper: The role of the family in eating disorders. International Journal of Eating Disorders, 43, 1-5. https://doi.org/10.1002/eat.20751

[22] Lindvall, D. C., & Wisting, L. (2017). Feeding and eating disorders in the DSM-5 era: A systematic review of prevalence rates in non-clinical male and female samples. Journal of Eating Disorders, 5, 1-10. https://doi.org/10.1186/s40337-017-0186-7.

[23] Melissa, B., De Beurs, E., & Van Furth, E. F. (2020). Eating disorders in the Arab world: A literature review. Journal of Eating Disorders, 8, 59. doi: 10.1186/s40337-020-00336-x.

[24] Mitchison, D., & Hay, P. J. (2014). The epidemiology of eating disorders: Genetic, environmental, and societal factors. Clinical Epidemiology, 17, 89-97. doi: 10.2147/CLEP.S40841.

[25] Peleg, O. (2008). The relation of differentiation of self and marital satisfaction: What can be learned from married people over the life course? The American Journal of Family Therapy, 36, 1-14. doi.org/10.1080/0192618070180463.

[26] Peleg, O. & Zoabi, M. (2014). Social anxiety and differentiation of self: A comparison of Jewish and Arab college students. Personality and Individual Differences, 68, 221-228. https://doi.org/10.1016/j.paid.2014.04.032

[27] Peleg, O. & Tzischinsky, O., & Spivak-Lavi, Z. (2021) Depression and social anxiety mediate the relationship between parenting styles and risk of eating disorders: A study among Arab adolescents. International Journal of Psychology 56, 853-864. doi: 10.1002/ijop.12787.

[28] Peleg, O. (2022). The relationship between type 2 diabetes, differentiation of self, and emotional distress: Jews and Arabs in Israel. Nutrients, 14, 39. https://doi.org/10.3390/nu14010039

[29] Peleg, O., Tzichinsky, O., & Meyran, Boniel-Nissim (2022). Does emotional stress mediate the relationships between differentiation of self and eating disorders among young adults. Clinical Psychiatry.

[30] Pengpid, S., & Peltzer, K. (2018). Risk of disordered eating attitudes and its relation to mental health among university students in ASEAN. Eating and Weight Disorders, 23, 349-355. doi.org/10.1007/s40519-018-0507-0.

[31] Phillips, L., Kemppainen, J. K., Mechling, B. M., Mackain, S., Kim-Godwin, Y., et al. (2015). Eating disorders and spirituality in college students. Journal of Psychosocial Nursing and Mental Health Services, 53, 30-37. https://doi.org/10.3928/02793695-20141201-01

[32] Radwan, H., Hayder, A., Hasan, H. A., Najm, L., Zaurub, S, Jami, F., & Javadi, F., et al., (2018). Eating disorders and body image concerns as influenced by family and media among university students in Sharjah, UAE. Asia pacific Journal of Clinical Nutrition, 27, 695-700. https://doi.org/10.6133/apjcn.062017.10

[33] Ruah, M., & Author (2019). The relationships between differentiation of self, birth order and separation anxiety: Comparison between Jewish and Arab students. The School Counselor, 21, 195-220 (Hebrew).

[34] Skowron, E. A., & Friedlander, M. (1998). The Differentiation of Self Inventory: Development and initial validation. Journal of Counseling Psychology, 28, 235-246. doi.org/10.1037/a0016709.

[35] Skowron, E. A., & Schmitt, T. A. (2003). Assessing interpersonal fusion: Reliability and validity of a new DSI Fusion with Others subscale. Journal of Marital and Family Therapy, 29, 209-222. doi.org/10.1111/j.1752-0606.2003.tb01201.x.

[36] Smink, F. R., Van Hoeken, D., & Hoek, H. W. (2013). Epidemiology, course, and outcome of eating disorders. Current Opinion in Psychiatry, 26, 543-548. doi: 10.1097/YCO.0b013e328365a24f.

[37] Smink, F. R., Van Hoeken, D., Oldehinkel, A. J., & Hoek, H. W. (2014). Prevalence and severity of DSM-V eating disorders in a community cohort of adolescents. International Journal of Eating Disorders, 47, 610-619. doi: 10.1002/eat.22316.

[38] Spivak-Lavi, Z., Author, Tzischinsky, O., Stein, D., & Latzer, Y. (2021). Differences in the factor structure of the Eating Attitude Test-26 (EAT-26) in different cultures in Israel: Jews, Muslims, and Christians. Nutrients, 13, 1899. https://doi.org/10.3390/nu13061899

[39] Tabler, J., & Utz, R. L. (2015). The influence of adolescent eating disorders or disordered eating behaviors on socioeconomic achievement in early adulthood. International Journal of Eating Disorders, 48, 622-632. doi: 10.1002/eat.22395.

[40] Torres, S., Guerra,. MP., Lencastre, L., Miller, K., Vieira, F. M., Roma-Torres, A., & Costa, P. (2015). Alexithymia in anorexia nervosa: The mediating role of depression. Psychiatry Research, 225, 99-107. doi.org/10.1016/j.psychres.2014.10.023.

[41] Udo, T., & Grilo, C. M. (2018). Prevalence and correlates of DSM-5-defined eating disorders in nationally representative sample of U.S. adults. Biological Psychiatry, 84, 345-354. doi: 10.1016/j.biopsych.2018.03.014.

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