Disordered Eating in Jewish Adolescent Girls

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Objectives: To examine the presence and nature of disordered eating attitudes and behaviours among Jewish Canadian adolescents, as compared with non-Jewish Canadian adolescents in an urban community. A secondary goal was to examine whether rates of eating-disordered behaviour differed among the adolescents based on the degree of Jewish religious observance.

Method: High school students (n = 868) from the Toronto area completed a demographic and religious practice questionnaire together with the Eating Attitudes Test (EAT), a self-report test that discriminated adolescents with syndromal eating disorders from normal adolescents.

Results: Jewish females aged 13 to 20 years, but not males, reported significantly more disordered eating behaviours and attitudes, compared with their non-Jewish female counterparts. Twenty-five percent of Jewish females, as compared with 18% of non-Jewish females, scored above the clinical cut-off for the EAT. No differences in vulnerability to disordered eating were found within the group of Jewish females or males related to their degree of religious observance.

Conclusions: Adolescent Jewish females, but not males, appear to be at greater risk for abnormal attitudes and behaviours related to eating, compared with their non-Jewish female peers. While the reasons for this finding are unclear, this study is a step toward improving understanding of the relations between sex, culture, religion, and the development of eating disorders. Culturally sensitive and sex-specific prevention strategies and treatment interventions are indicated.

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Clinical Implications

- Jewish adolescent females may be at higher risk for developing disordered eating.
- Different ethnic or cultural groups may have different vulnerabilities to the development of eating disorders.
- Ethnic and culturally sensitive programs need to be developed and incorporated into prevention initiatives in the community.

Limitations

- Data were collected through self-report, therefore clinical diagnoses were not confirmed.
- We were unable to look at other specific non-Jewish groups, as some of the groupings within the non-Jewish sample were relatively small.
- A measure of family functioning was not employed in this study, therefore we were unable to establish whether this was a mediating factor.

Key Words: Jewish, religion, eating attitudes, eating disorder
Eating disorders are serious medical and mental health problems affecting young women and, increasingly, young men. Eating disorders are widely acknowledged to have multidimensional etiologies, with sociocultural influences perceived to be significant factors, in addition to genetic, biological, and psychological factors. Increasingly, these disorders are recognized to vary regarding phenomenology, with many sufferers presenting with partial and (or) hybrid syndromes.

Eating disorders are more common in females, compared with males. Relative prevalence estimates for anorexia nervosa range from 9:17 to 4:1. Annual incidence is highest for females aged 10 to 19 years, peaking at a rate of 34.6 per 100,000. For bulimia nervosa, the lifetime prevalence is 1.1% to 1.46% for women and 0.1% to 0.13% for men, in the highest annual incidence, 35.8 per 100,000, occurring in females aged 10 to 19 years.

As our understanding of eating disorders increases, so does our sophistication regarding the existence of the partial syndromes and hybrid presentations of eating disorders, which are presently categorized under 6 types of eating disorders not otherwise specified. A large number of people suffer from partial syndromes, meeting some but not all criteria for a classical eating disorder, but still merit clinical attention. Differences in the presentation and epidemiology of eating disorders between different sociocultural groups were described and reviewed in recent years. However, our understanding of specific factors contributing to such differences, together with our ability to develop culturally sensitive and targeted prevention and treatment strategies, remains limited.

Our study contrasts a representative adolescent Jewish population with non-Jewish adolescents in metropolitan Toronto. Clinical experience in this large multicultural city suggested an overrepresentation of Jewish adolescent females presenting to hospitals for an eating disorder assessment. In addition, preliminary North American data have already suggested that within patient populations, Jewish females with eating disorders are overrepresented. These authors found that the proportion of Jews in a US population of female patients with eating disorders was significantly higher (7.2%) than the proportion of Jews in the general population (4.5%). However, these data are limited in their usefulness as the study subjects were patients presenting to an eating disorder clinic, the results being confounded by the possibility that help-seeking behaviour is greater in the Jewish community, rather than actual eating-disordered attitudes and behaviour. There are currently no other studies that compare disordered eating symptomatology in the Jewish community with the general population, and very little that examines the rates of disordered eating in the Jewish community within subgroups of the Jewish community in North America. One such study looking at a small sample of university students suggested that Orthodox Jewish women might be protected by their religious status from eating-disordered behaviour, compared with non-Orthodox Jewish women.

The purpose of our study was to contrast the presence and nature of eating attitudes and behaviours in Jewish, compared with non-Jewish, adolescents in Toronto; and to look at the relation between the type of religious observance and disordered eating attitudes and behaviours in Jewish adolescents.

Method

Subjects
The sample consists of 1130 females and 1145 males aged 13 to 20 years living in Toronto and attending high school full time. The religious affiliations of the students are presented in Figure 1.

To enlist a representative sample of Jewish adolescents, a partnership was formed with JFCS, a publicly funded social services agency that provides outreach, education, crisis support, and child protection services to Toronto’s Jewish community. JFCS social workers are connected as support staff to schools in Toronto with large Jewish populations. JFCS was able to supply us with a contact person in each of the schools, both public and private, from which subjects were recruited.

Subjects were grouped by: religion—Jewish, compared with non-Jewish (Figure 1)—Christian, Muslim, Hindu, Buddhist, and those who considered themselves agnostics, atheists, or of various mixed or other religions (for example, Wicca, Zoroastrian); within the Jewish group by ethnicity—Ashkenazi (of northern European descent) or Sephardic (southern European or north African), and mixed ethnicity; and, within the Jewish group by self-reported level of observance—divided into Orthodox, conservative, reform, and secular Jews.

After complete description of the study to the subjects, written informed consent was obtained. Ethics approval and scientific review for the study was obtained from the Hospital.

Abbreviations used in this article

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>BMI</td>
<td>body mass index</td>
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<tr>
<td>EAT</td>
<td>Eating Attitudes Test</td>
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<tr>
<td>JFCS</td>
<td>Jewish Family and Child Services</td>
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for Sick Children and University of Toronto Research Ethics Boards.

**Measures**

Two self-report questionnaires were administered to the students. First, a demographic questionnaire asked subjects to describe basic family structure, social activities, and religious practices, and questions about specific eating and weight history. This questionnaire was a combination and modification of 2 other demographic surveys: The Toronto Jewish Community Survey, developed by the Jewish Federation of Greater Toronto to identify and describe members of the Toronto Jewish community; and The Demographic Questionnaire, used to survey child and adolescent populations within select southern Ontario school boards.

Second, the EAT\(^{21,22}\) is a 3-factor, 26-item scale used extensively around the world as a screening tool for identifying disordered eating in both clinical and community samples.\(^7,23\) The 3 factors include dieting, bulimia, and food preoccupation. Research findings using the EAT have led to identification of a cut-off score of 20, which discriminates between those likely to develop or to have significant symptoms of an eating disorder, compared with those less likely to be at risk for developing eating disorder symptoms.\(^22\) It has been used to differentiate both anorexic and bulimic patients from normal controls. Its alpha reliability coefficient is good, at 0.79. The EAT was used as the indicator of disordered eating in this study. It is important to note that the EAT cannot be used to make clinical diagnoses.

**Results**

The mean age, weight, and height of Jewish, compared with non-Jewish, males and females can be found in Table 1. Jewish females reported a significantly higher BMI than non-Jewish females, 21.4, compared with 20.6 (\(P = 0.001\)). Significantly more Jewish females were trying to lose weight than non-Jewish females, 55%, compared with 45% (\(P = 0.001\)).

Table 2 compares eating attitudes and behaviours for Jewish and non-Jewish males and females. Jewish females reported significantly higher scores on the EAT, compared with non-Jewish females. This difference remained significant at the level of \(P < 0.01\), after controlling for BMI.

Jewish males reported a slightly higher average BMI than non-Jewish males. More Jewish males were trying to lose weight than non-Jewish males (Table 1). Jewish and non-Jewish males did not differ on their total EAT scores, nor on any of the EAT subscales (Table 2).

Overall, EAT scores for all females, compared with all males, showed that females reported a significantly higher total EAT score than males (12.8, compared with 9.1); \(t = 8.9, \text{df} = 754, P < 0.001\).

A stepwise backward logistic regression was then performed to control for possible confounders. The dependent variable was an EAT score above or below the clinical cut-off point. Sex, BMI, total perfectionism, and whether one was Jewish, were the only independent variables that remained significant in the equation for the population as a whole (Table 3). The Hosmer-Lemeshow goodness of fit test produced a
nonsignificant finding ($\chi^2 = 7.041, \text{df} = 8, P = 0.532$). For Jewish and non-Jewish females, a stepwise backward logistic regression was also performed to control for possible confounders. BMI, total perfectionism, and whether one was Jewish, were the only independent variables that remained significant in the equation (Table 4). The Hosmer-Lemeshow goodness of fit test produced a non-significant finding ($\chi^2 = 9.648, \text{df} = 8, P = 0.291$), supporting the appropriateness of the model. Being Jewish was not a significant independent variable when males were examined separately.

Because Jewish girls had significantly higher rates of disordered eating, we further explored that population. Within the Jewish subjects, no significant differences were found on the basis of ethnicity (Sephardic, compared with Ashkenazi), nor on the basis of level of observance (secular, reform, conservative, or Orthodox) shown in Figure 2, nor on whether they were immigrants. This was confirmed by a logistic regression, controlling for BMI, and perfectionism with EAT scores above or below the clinical cut-off point as the dependant variable. While perfectionism and BMI remained significant independent variables, neither ethnicity, nor level of religious observance had significant $P$ values. This sample did not allow for an examination of differences in EAT scores between various non-Jewish faiths.

Discussion

Our study adds to the literature documenting the high numbers of adolescents in a large, multicultural North American city who suffer from significant eating-disordered attitudes and behaviours. In addition, it adds to an emerging amount of literature pointing to higher levels of eating-disordered attitudes and behaviours in Jewish adolescent females, compared with their non-Jewish counterparts.
Jewish adolescent females reported a significantly higher rate of active dieting. They also reported a significantly higher rate of overall eating-disordered beliefs, and beliefs and behaviours specific to both dieting and bulimia. Jewish adolescent males also reported a significantly higher rate of dieting activity. However, they did not report a higher rate of overall disordered eating psychopathology, as compared with non-Jewish adolescent males. As this is a general population survey, these results suggest that the higher level of eating disorder attitudes found in Jewish females in a clinical population are less likely to be the result of a higher level of help-seeking behaviour, as opposed to a higher level of psychopathology.

The observed higher levels of weight and shape concern in Jewish males and females may well represent a risk factor for the development of eating disturbance in this group. How can we explain this finding? From a biological perspective, both Jewish girls and boys were found to have slightly higher BMIs than non-Jewish adolescents. We could argue that in a society obsessed with a thin ideal, the Jewish females may be more likely to be dissatisfied with their size, and were in fact more likely to have dieted than non-Jewish peers. However, subjects’ BMIs only partially account for the reporting of higher EAT scores and does not explain the differences in eating pathology between Jewish and non-Jewish females. While Jewish females scored higher overall on the EAT and the dieting and bulimia subscale, they scored lower on the oral control subscale. These findings could mean that while Jewish females are more focused on weight loss, they may not feel as in control, and their eating may in fact be more chaotic. This may be owing to cultural factors or to the differences in weight observed in the sample between the 2 groups.

By contrast, Jewish males also had higher BMIs and were more likely to diet, but did not have higher rates of eating-disordered attitudes and behaviours. This may reflect differences in gender roles for boys and girls in Jewish families or simply differential social experiences and pubertal trajectories of males and females in the larger culture. At puberty, females experience an increase in body fat and males experience an increase in muscle mass. Therefore, getting bigger may have different meanings for males and females in a North American culture where fat and being fat is often viewed negatively. Alternatively, young females are known to be the most vulnerable to developing eating disorder symptoms. It may be that this finding reflects a canary-in-the-mine finding, suggesting that Jewish males, who are already dieting more commonly than non-Jewish males, may come to endorse higher rates of eating disorder symptoms over time.

### Effects of Jewish Religion or Culture

A second goal of this study was to examine whether rates of eating-disordered behaviour differed based on the type of

<table>
<thead>
<tr>
<th>Variable</th>
<th>β coefficient</th>
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<th>P</th>
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<td>0.386</td>
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<sup>a</sup>Wald’s $\chi^2$

<sup>b</sup>Male served as referent

<sup>c</sup>Non-Jewish served as referent

Table 4 OR for variables in final logistic regression model for females ($n = 1068$)

<table>
<thead>
<tr>
<th>Variable</th>
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<th>P</th>
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</table>

<sup>a</sup>Wald’s $\chi^2$

<sup>b</sup>Male served as referent

<sup>c</sup>Non-Jewish served as referent
Jewish religious observance. This hypothesis did not find empirical support. In contrast to our expectations, based on a previous study that found religious orthodoxy to be protective in developing eating-disordered behaviour, our study found no demonstrable link between the Jewish females’ expressed degree of religious orthodoxy and their eating-disordered thoughts and behaviours. In addition, no significant differences were found regarding disordered eating pathology based on Jewish ethnicity.

Broader Sociocultural Forces
Jews remain a minority in most North American urban centres. The unique challenges that arise from pressures in attempting to integrate fully into the dominant culture are perhaps a powerful social force that requires further exploration. Another hypothesis to consider is that members of minority groups attempting to fit into the majority group may in fact take on and attempt to live up to social norms and cultural expectations more intensely than members of the majority.

Another hypothesis regarding social determinants is that every minority group may carry an independent risk factor. In the Jewish community it may be that for post-Holocaust generations, attitudes and behaviours around food and weight become issues that carry unique psychological and cultural meanings for Jewish families. These meanings may influence families’ attitudes in ways that increase vulnerability to food and weight concerns. While empirical studies are difficult to perform in this complex area, recent studies are suggestive. While Bachar et al have recently reported no long lasting effect on eating pathology in Jewish Holocaust survivors of Nazi concentration camps and that survivors of the camps did not develop eating pathology as a result of this experience, some Nazi concentration camp survivors have reported binge eating episodes immediately after liberation that for a minority lasted for up to 10 years post-liberation. The results of a study of the offspring of Holocaust survivors suggest that the second generation have been affected regarding eating pathology. This qualitative study linked Holocaust survivors’ personal experiences of deprivation and trauma to their offspring’s restrained or overeating patterns. The transmission of Holocaust trauma is thought to be a function of displaced parental emotions, inadequate parenting behaviour, family enmeshment, and hereditary predispositions in combination with specific aggravating and mitigating circumstances. There is an intricate interplay among different levels of transgenerational influence, suggesting that this transmission is caused by a complex of multiple related factors including biological predispositions, individual developmental history, family influences, and social situations. The results of this current study may partially reflect a population that represents the third post-Holocaust generation; it is possible that this is a progression of a multigenerational effect.

Clinical Implications
While this study employed a nonclinical sample, the findings have clinical implications. Principally, differential vulnerabilities to eating disorders should inform where and how we focus treatment in the community.

Further, the results indicate that this population is indeed vulnerable to eating-disordered attitudes and behaviours.
Prevention strategies and treatment interventions that accommodate and use sex, cultural, and religious differences in both their form and content are more likely to prove effective.

**Future Directions**

The findings from the present study point to the need for further research to better understand whether the reporting of higher eating-disordered beliefs and behaviours is unique to this population of Canadian Jewish adolescents or whether it is present in other Jewish populations in other countries. Future study is indicated to better understand whether families that are multigenerational offspring of Holocaust survivors are indeed at greater risk; whether other minority populations within North America also display higher rates of eating disorder symptoms; and, if so, how they differ from those observed in the Jewish community. Further research directions include more in-depth qualitative analysis of specific factors affecting Jewish females’ and males’ attitudes toward food and weight, and larger quantitative studies addressing differences between and within other ethnic communities in our multicultural community.

**Limitations**

First, this study relied solely on the use of self-report measures and was unable to provide a more detailed description of the nature and severity of adolescents’ attitudes, beliefs, and behaviours related to eating, dieting, weight, and shape. Similarly, those subjects who reported EAT scores above the clinical cut-off were not confirmed to have met any DSM-IV criteria for an eating disorder diagnosis. Second, we did not use any measures of family functioning and are therefore unable to comment on this potential mediating factor in either the Jewish or non-Jewish populations in our study. We also did not track a history of Holocaust survivors in the families of the sampled population. In addition, it is possible that the non-significant finding for differences between the level of observation and rates of disordered eating among the Jewish females reflects an insufficiently large sample. Finally, the numbers of adolescents from non-Jewish ethnic groups in the study are small, and we are therefore unable to comment on any significant differences between these other groups.

**Conclusion**

Our study adds to the literature on rates of eating disorders in Canada and on differences in rates between ethnic groups in that it controls for the possibility that Jewish females are more visible in clinical populations of eating-disordered patients because of more effective help-seeking behaviour than may be found in other cultural groups. Our population was nonclinical and replicated the increased vulnerability among Jewish females to eating-disordered attitude and behaviour rates found in previous studies. This study is a step toward improving our understanding of the relation between culture, religion, and the development of eating disorders.

Our results warrant a further epidemiologic examination of the North American Jewish population, given the complex and multidimensional nature of both the pathogenesis and phenomenology of eating disorders.

**Funding and Support**

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**Acknowledgements**

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**References**

Résumé : Les troubles de l'alimentation chez des adolescentes juives

Objectifs : Examiner la présence et la nature des troubles des conduites et attitudes alimentaires chez des adolescents canadiens juifs, comparativement aux adolescents canadiens non juifs, dans une communauté urbaine. Un but secondaire était d’examiner si les taux des troubles des conduites alimentaires différaient parmi les adolescents selon le degré d’observance de la religion juive.

Méthode : L’écoliers du secondaire (n = 868) de la région de Toronto ont répondu à un questionnaire de données démographiques et de pratique religieuse ainsi qu’à l’Eating Attitudes Test (EAT), un test autodéclaré qui distinguaient les adolescents présentant des troubles alimentaires syndromatiques des adolescents normaux.

Résultats : Les filles juives, mais pas les garçons, ont déclaré un nombre significativement plus grand de troubles des conduites et attitudes alimentaires, comparativement à leurs homologues féminines non juives. Vingt-cinq pour cent des filles juives, comparé à 18 % des filles non juives, ont obtenu des scores au-dessus du seuil d’inclusion clinique au test EAT. Aucunes différences de vulnérabilité aux troubles alimentaires n’ont été observées au sein du groupe des filles et garçons juifs relativement à leur degré d’observance religieuse.

Conclusions : Les filles juives, mais pas les garçons, semblent être à risque accru d’attitudes et de conduites anormales en ce qui concerne l’alimentation, comparativement à leurs homologues féminines non juives. Bien que les raisons de ce résultat ne soient pas définies, cette étude est un pas vers une meilleure compréhension des relations entre le sexe, la culture, la religion, et le développement des troubles alimentaires. Des stratégies de prévention adaptées à la culture et sexospécifiques, et des interventions thérapeutiques sont indiquées.