Regional Disparities in Psychiatric Distress, Violent Behavior, and Life Satisfaction in Iranian Adolescents: The CASPIAN-III Study

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ABSTRACT: Objectives: The purpose of this study was to assess the prevalence of violence behaviors, psychiatric distress, and life satisfaction among 10- to 18-year-old Iranian adolescents at national and regional disparities. Methods: In this national survey, 5570 students of age 10 to 18 years from urban and rural regions of 27 provinces of Iran were selected through stratified multistage sampling method. Violence behaviors, psychiatric distress, and life satisfaction were assessed by a questionnaire that was prepared based on WHO global school-based student health survey and the WHO-stepwise approach to non-communicable diseases (Tools version 9.5). The country classification into 4 subnational regions was done based on combination of geography and socioeconomic status (SES). The data were analyzed by the SPSS software. Results: The prevalence of emotional, depressive, and anxiety problem among Iranian students was 17.7%, 16.3%, and 5.7%, respectively. The percentage of emotional and depressive problem differed significantly between different SES distress (p value <.001). The prevalence of bullying, victim, and physical fight was 27.1%, 32.7%, and 50.6% among students aged 10 to 18 years, respectively. Bullying and victim experience were linearly associated with regions’ SES. Students who were living in the north-northeast region had maximum self-rated health and life satisfaction in Iran. Conclusions: The results declared that psychiatric distress was more frequent in high SES distress, whereas violence behavior was more frequent in the lowest SES distress. Therefore, in communities with large variations in health and SES in regional level, health policies for primordial and primary prevention of mental and behavioral distress have to be made at regional levels.


Bullying in school and victimization are frequent experience and problematic behavior among adolescents. School bullying with rates ranging from 9% to 54%4 and being victim weekly or more frequent around 3% to 10% in secondary school2 were reported in studies. Bullying was defined as exposure to a negative physical or verbal action, and it was repeated over time.3,4 Verbal and physical bullying are direct forms of bullying. Results of studies have shown that boys are more involved in direct bullying.5

The children exposed to violence suffer from mental and behavioral problems such as depression, anxiety, loneliness, isolation, panic of going to school, and poor concentration compared with non-victimized children.6–9 Studies have shown that students had victimization experience, reduced their ability to learn in school, tried suicide, ran away, or refused to go to school.10,11 Rate of psychiatric distress have increased in youth during recent decades. At least 1 of every 4 to 5 youth will suffer from at least 1 mental distress.12 Study of Noorbala et al13 showed that 25.9% and 14.9% of Iranian women and men, aged 15 to 24 years, had mental disorders, respectively. Poor mental health is associated with lower educational achievement, unhealthy lifestyle, physical ill-health, and increased health care costs.12,14 Previous studies show the strong relation between mental health and socioeconomic status (SES), such as income, education, condition of working, etc in individual level.15,16 Results show that subjects with low socioeconomic condition have higher mental health symptoms. For example, persons with low economic status had more prevalence of obsessive-compulsive disorders, depression, and anxiety.17,18 Aggressive peers and socioeconomic status such as income and education influence directly and indirectly how people
act and increase their risk of being a victim or delinquency of violence.\textsuperscript{19,20}

The aim of this study was to assess the prevalence of violent behavior, psychiatric distress, and life satisfaction based on geographic and SES disparities. Our hypothesis was that regarding large variation in geographic and SES in different regions of Iran, was the prevalence of violence behavior, psychiatric distress and life satisfaction different in various regions of Iran based on geographic and SES disparities?

Regarding large variations in geographic and SES in different regions of Iran, the results of present nationwide study can be used by policy makers for prioritizing effective preventions and policies at subnational levels. Also, based on student needs, the school-based violence prevention and school-based mental health programs can be designed to alleviate the violence and mental distress rates among adolescents.

**METHODS**

The data were obtained from a national study as the third survey of the school-based surveillance system entitled “Childhood and Adolescence Surveillance and Prevention of Adult Non communicable disease” (CASPIAN-III) study. The methodology of study has been reported in detail before,\textsuperscript{21} and we present it in brief.

The sample size was calculated to be 4950 in the 27 provinces of Iran, and with estimated 80% response rate, 20% was added to the sample size. The study participants were 5683 Iranian school students aged 10 to 18 years (95.6% participation rate). They were selected from elementary, intermediate, and high school of rural and urban areas of 27 provinces of Iran through stratified multistage random sampling method. Stratification was done according to the school type (public/private) and location (urban/rural). From each stratum, proportional 2-stage cluster sample of students were selected. Those students with the history of chronic or acute disease and any medication use were excluded in this study. A total of 5570 students who filled out completely mental distress, violence behavior, life satisfaction, and self-rated health (SRH) sections were included in the analysis of this article.

Written informed consent form was obtained from parents and oral assent from students after complete description of the procedure involved.

We prepared the questionnaire in Farsi and based on the WHO global school-based student health survey and the WHO-Stepwise approach to noncommunicable diseases (Tools version 9.5). The reliability and validity of questionnaire was confirmed in the study by Zakeri et al.\textsuperscript{22}

The questionnaire had 4 sections included psychiatric distress, violence behavior, SRH, and life satisfaction. The psychiatric distress included worthless, angriness, anxious, insomnia, confusion, sadness, and worried problems, which were assessed by following questions:

- **Worried**
  - During the past 6 months, how often did you have this problem? (Response options were from 1 = approximately to 5 = rarely or never).

- **Angriness**
  - During the past 6 months, how often did you have this problem? (Response options were from 1 = approximately to 5 = rarely or never).

- **Anxious**
  - During the past 6 months, how often did you have this problem? (Response options were from 1 = approximately to 5 = rarely or never).

- **Insomnia**
  - During the past 6 months, how often did you have this problem? (Response options were from 1 = approximately to 5 = rarely or never).

- **Confusion**
  - During the past 6 months, how often did you have this problem? (Response options were from 1 = approximately to 5 = rarely or never).

- **Sadness**
  - During the past 12 months, did you ever feel so sad or hopeless almost every day for 2 weeks or more in a row that you stopped doing your usual activities? (Response option 1 = yes and 2 = no).

- **Worried**
  - During the past 12 months, how often have you been so worried about something that you could not sleep at night? (Response options were from 1 = never to 5 = always).

Psychiatric distress variables were categorized into emotional distress, depressive, and anxiety problem. Adolescents’ emotional distress was determined by questions of worthless, angriness, anxious, insomnia, and confusion. Adolescents who had at least 3 of these 5 problems once in a week, more than once in a week, or every day was defined as “adolescents with emotional distress.” A positive answer to the sadness question was of value as a predictor of having depressive problem. At the end, students who were worried most of time or always was defined as “students with anxiety problem.”\textsuperscript{22} Violence behavior section included bullying, victim, and having physical fight variables.

- **Bullying**
  - During the past 3 months, how often did you bully at school? (Response options were from 1 = I did not bully any student at the school to 4 = 4 or more times).\textsuperscript{23}

- **Victim**
  - During the past 3 months, how often did you get bullied at school? (Response options were from 1 = never to 4 = more than 3 times).
Physical Fight

During the past 12 months, how many times were you in a physical fight? (Response option 1 = 0 times to 5 = 4 times).

SRH was assessed by a single item, “How would you describe your general state of health?” the categories of response were “Perfect,” “Good,” “Moderate,” and “Bad.” Life satisfaction was measured by a single item too; subjects were asked to indicate their degree of life satisfaction by using a 10-point scale from 1 = very dissatisfied to 10 = very satisfied.

In this study, Iran was divided into 4 subnational regions. The combination of geography and socioeconomic status (SES) was criteria of definition of subnational regions. The southeast region had the lowest SES and the central had the highest. SES was an index included years of schooling, family assets, and employment rates.

The data were analyzed by the SPSS version 13 (SPSS Inc, Chicago, IL). We reported the qualitative variables as number and percentages. We adjusted the mean of life satisfaction score for age, body mass index, and sex and then reported with SE and 95% confidence interval (CI). We compared the adjusted means of life satisfaction score across regions by analysis of covariance and Tukey post hoc test and the prevalence of violence behavior, psychiatric distress, and SRH across regions by Pearson \( \chi^2 \) test. The significant level was \( p < .05 \).

RESULTS

Prevalence of Emotional, Depressive, and Anxiety Problem at National and Subnational Levels

The prevalence of emotional distress among Iranian students, aged 10 to 18 years, was 17.7% (95% confidence interval [CI], 16.6%–18.7%) (Table 1). Emotional distress significantly differed in various regions of Iran (\( p \) value < .001). Students living in the west regions of Iran experienced emotional distress (21.5%; 95% CI, 19.8%–23.2%) more than other regions, whereas students in the north-northeast experienced less (12.1%; 95% CI, 10.1%–14.1%).

A total of 16.3% (95% CI, 15.3%–17.2%) of students, aged 10 to 18 years, reported depressive problem. The prevalence rate of depressive problem was 18.7% (95% CI, 16.8%–20.6%) in the central regions of Iran (highest socioeconomic status [SES]) and 13.9% (95% CI, 12%–15.3%) in the west. These regions had maximum and minimum experience of depression in Iran, respectively.

A total of 5.7% (95% CI, 5.1%–6.3%) of adolescent students, aged 10 to 18 years, in Iran experienced anxiety problem. This problem was reported to be 3.6% (95% CI, 2.9%–4.3%) in boys and 7.8% (95% CI, 6.8%–8.8%) in girls. The differences across regions in anxiety problem were not significant (\( p \) value > .05).

The percentage of psychiatric distress number (emotional, depressive, and anxiety problems) among Iranian adolescent, aged 10 to 18 years, in different regions was shown in Figure 1. The percentage of each 3 problems in the southeast, north-northeast, west, and central regions of Iran was 1.6%, 1%, 2%, and 2.4% of students, respectively, in which this difference was significant (\( p < .001 \)).

Figure 2 shows the percentage of psychiatric distress among Iranian adolescent, aged 10 to 18 years, in different regions. The percentage of each 7 problems in the southeast, north-northeast, west, and central regions of Iran were 0.4%, 0.1%, 0.3%, and 0.5% of students, respectively, in which this difference was significant (\( p \) value < .001).

Prevalence of Violent Behavior and Psychiatric Distress at National and Subnational Level

A total of 32.7% (95% CI, 31.4%–33.9%) of Iranian students, aged 10 to 18 years, have been victims: 55.7% (95% CI, 33.9%–37.4%) of boys and 29.7% (95% CI, 28%–31.4%) of girls (Table 2). Students who lived in the southeast regions of Iran had the most victim experience (39%; 95% CI, 34.9%–43.1%) and in the west regions of Iran had minimum (29.3%; 95% CI, 27.4%–31.1%).

The prevalence of bullying among Iranian adolescents, aged 10–18 years, was 27.1% (95% CI, 25.9%–28.2%): 31.1% (95% CI, 29.5%–33%) of boy and 23% (95% CI, 21.4%–24.5%) of girl students. Different prevalence of bullying experience was observed among Iranian students in various regions (\( p < .001 \)). The adolescents living in the Southeast region of Iran significantly had more bullying experience compared with other regions (32.4%; 95% CI, 28.5%–36.4%; \( p < .001 \)), and students who lived in the west regions of Iran had minimum experience (24.1%; 95% CI, 22.3%–25.8%).

The percentage of physical fight was 50.6% (95% CI, 49.2%–51.9%) in Iranian students. The significant difference was observed only among girl students in various regions of Iran (\( p = .004 \)). The female students living in the north-northeast had maximum physical fight experience (48.1%; 95% CI, 43.8%–52.4%) and girl students of the west region had minimum (40.1%; 95% CI, 37.3%–42.9%).

Life Satisfaction at National and Subnational Level

Among Iranian students, aged 10 to 18 years, the mean of life satisfaction was 7 ± 0.36 (95% CI, 1.81–3.2) (Table 3). In other words, in boy and girl students was 6.09 ± 0.51 (95% CI, 2.1–4.1) and 6.9 ± 0.52 (95% CI, 2.5–4.6), respectively. The mean of life satisfaction score was significantly higher in the north-northeast (second low SES rank) than other regions (\( p < .001 \)). After that, the mean of life satisfaction score was significantly higher in the central regions of Iran (\( p < .001 \)).

Self-rated health (SRH) of Iranian adolescents, aged 10 to 18 years, was shown in Figure 3. The bad SRH in the southeast, north-northeast, west, and central regions was reported in 9.3%, 1.4%, 8.3%, and 5.8% of students, respectively.
Table 1. Comparison of the Prevalence of Emotional, Depressive, and Anxiety Problems in Adolescents at National and Subnational Levels: The “Childhood and Adolescence Surveillance and Prevention of Adult Non Communicable Disease” Study

<table>
<thead>
<tr>
<th>Regions</th>
<th>N (%)</th>
<th>95% CI</th>
<th>N (%)</th>
<th>95% CI</th>
<th>N (%)</th>
<th>95% CI</th>
<th>N (%)</th>
<th>95% CI</th>
<th>N (%)</th>
<th>95% CI</th>
<th>p</th>
<th>p Trend</th>
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<tbody>
<tr>
<td>Emotional problem</td>
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</tr>
<tr>
<td>Boys</td>
<td>44 (16.0)</td>
<td>11.8–20.8</td>
<td>64 (12.1)</td>
<td>9.4–15.1</td>
<td>209 (18.6)</td>
<td>16.3–20.9</td>
<td>125 (14.9)</td>
<td>12.5–17.5</td>
<td>442 (16.0)</td>
<td>14.6–17.4</td>
<td>.006</td>
<td>.5</td>
</tr>
<tr>
<td>Girls</td>
<td>40 (13.9)</td>
<td>10.1–18.4</td>
<td>64 (12.0)</td>
<td>9.3–15</td>
<td>287 (24.2)</td>
<td>21.7–26.7</td>
<td>151 (18.9)</td>
<td>16.2–21.8</td>
<td>542 (19.3)</td>
<td>17.8–20.8</td>
<td>&lt;.001</td>
<td>.001</td>
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<tr>
<td>Overall</td>
<td>84 (14.9)</td>
<td>12.1–18.1</td>
<td>128 (12.1)</td>
<td>10.1–14.1</td>
<td>496 (21.5)</td>
<td>19.8–23.2</td>
<td>276 (16.9)</td>
<td>15.1–18.7</td>
<td>984 (17.7)</td>
<td>16.6–18.7</td>
<td>&lt;.001</td>
<td>.004</td>
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<td>Depressive problem</td>
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<tr>
<td>Boys</td>
<td>32 (11.5)</td>
<td>7.9–15.8</td>
<td>79 (14.7)</td>
<td>11.8–18</td>
<td>142 (12.2)</td>
<td>10.3–14.2</td>
<td>132 (15.4)</td>
<td>13–19.7</td>
<td>385 (13.6)</td>
<td>12.3–14.8</td>
<td>.1</td>
<td>.2</td>
</tr>
<tr>
<td>Girls</td>
<td>62 (21.5)</td>
<td>16.9–26.7</td>
<td>111 (20.6)</td>
<td>17.2–24.2</td>
<td>188 (15.6)</td>
<td>13.5–17.7</td>
<td>180 (22.2)</td>
<td>19.3–25.2</td>
<td>541 (19.0)</td>
<td>17.5–20.4</td>
<td>.001</td>
<td>.8</td>
</tr>
<tr>
<td>Overall</td>
<td>94 (16.6)</td>
<td>13.6–19.9</td>
<td>190 (17.7)</td>
<td>15.4–20</td>
<td>330 (13.9)</td>
<td>12.0–15.3</td>
<td>312 (18.7)</td>
<td>16.8–20.6</td>
<td>926 (16.3)</td>
<td>15.3–17.2</td>
<td>&lt;.001</td>
<td>.3</td>
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<tr>
<td>Anxiety problem</td>
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<tr>
<td>Boys</td>
<td>8 (2.9)</td>
<td>1.2–5.5</td>
<td>18 (3.4)</td>
<td>2–5.2</td>
<td>36 (3.1)</td>
<td>2.1–4.2</td>
<td>41 (4.8)</td>
<td>3.4–6.4</td>
<td>103 (3.6)</td>
<td>2.9–4.3</td>
<td>.1</td>
<td>.09</td>
</tr>
<tr>
<td>Girls</td>
<td>20 (6.9)</td>
<td>4.0–10.5</td>
<td>41 (7.6)</td>
<td>5.5–10.1</td>
<td>89 (7.4)</td>
<td>5.9–9.9</td>
<td>73 (9.0)</td>
<td>7.1–11.1</td>
<td>223 (7.8)</td>
<td>6.8–8.8</td>
<td>.5</td>
<td>.2</td>
</tr>
<tr>
<td>Overall</td>
<td>28 (4.9)</td>
<td>3.3–7</td>
<td>59 (5.5)</td>
<td>4.2–7</td>
<td>125 (5.3)</td>
<td>4.4–6.2</td>
<td>114 (6.8)</td>
<td>5.6–8.1</td>
<td>326 (5.7)</td>
<td>5.1–6.3</td>
<td>.1</td>
<td>.06</td>
</tr>
</tbody>
</table>

Confidence interval for prevalence (%).
DISCUSSION

The results of our study showed that prevalence of both the emotional distress and the depressive problem was <20% among adolescents, aged 10 to 18 years and anxiety problem was <10%. The previous study showed that prevalence rate of emotional, depression, and anxiety problems among 10 to 18 years of Iranian students were 27.8%, 2.7%, and 11.5%, respectively. These results show that prevalence of psychiatric distress decreased during these years among Iranian adolescents, aged 10 to 18 years. The prevalence of psychiatric distress in Brazil, South Africa, and India among adolescents were 13%, 15%, and 13%, respectively. Our results showed that Iranian adolescents had psychiatric distress as frequent as other less-industrialized countries.

In our study, students from the west regions (second high socioeconomic status [SES]) and the central regions of Iran reported the most emotional distress and depressive experience, respectively. In our study, the regions with the highest SES had the highest prevalence of emotional and depressive distress. Sawyer et al investigated the prevalence of emotional and behavioral problems in different socioeconomic class school. The results of their study showed that the highest prevalence of emotional problem was found in the lower socioeconomic regions, and results of Bijl et al study declared that anxiety and mental distress were more prevalent in the lower income family, people with the least schooling and unemployment people. But this result was not observed in our study, and the most prevalence of emotional and depressive distress was seen in the regions with the highest SES. Regional differences in terms of ethnicity, religion, culture, and urbanization rate may play role on psychiatric distress prevalence. Iran is a multiethnic society with different ethnic groups living in various regions of the country. The ethnicity of the Iranian population is primarily Fars with more than 51%. The second biggest group is Azeri (24%), and the remaining portion of the population is Turkmen (8%), Kurds (7%), Arabs (3%), and others (7%).

Fars population mostly inhabits in the central regions of Iran, whereas other ethnic groups are settled along the borderlines and the most of them are Shi’a Muslims. The capital of Iran and metropolis are in the central regions of the country; due to the nature of this area approximately more than 80% of people indwell in urban areas, as a result, the highest urbanization rate is found in the center of Iran. After the central regions, the west regions of Iran have the maximum urbanization rate among different part of Iran. Azeri and Kurd people inhabit in the west regions, and approximately 64% of them live in urban areas. The major works of Azeri and Kurd population are production, agriculture, and traditional and modern livestock farming. The most of Azeri people are followers of Shi’a Muslims and Kurd population Sunni Muslims. The rate of psychiatric disorders was found to be higher in urban areas than in rural areas. Urbanization is associated with environmental degradation, industrialization, pollution, and congestion that have an adverse effect on health. As previous studies showed that urbanization is associated with

Figure 1. The percentage of psychiatric distress number (emotional, depressive, and anxiety problems) among Iranian adolescents, aged 10 to 18 years, in different regions: The “Childhood and Adolescence Surveillance and Prevention of Adult Non communicable disease” study.

Figure 2. The percentage of psychiatric distress among Iranian adolescents, aged 10 to 18 years, in different regions: The “Childhood and Adolescence Surveillance and Prevention of Adult Non communicable disease” study.
### Table 2. Comparison of the Prevalence of Violence Behavior and Component of Emotional Problem in Adolescents at National and Subnational Levels: The “Childhood and Adolescence Surveillance and Prevention of Adult Non Communicable Disease” Study

<table>
<thead>
<tr>
<th>Regions</th>
<th>Victim</th>
<th>Bullying</th>
<th>Physical fight</th>
<th>Angeress</th>
<th>Insomnia</th>
<th>Confusion</th>
<th>Worthless</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%) 95% CI</td>
<td>N (%) 95% CI</td>
<td>N (%) 95% CI</td>
<td>N (%) 95% CI</td>
<td>N (%) 95% CI</td>
<td>N (%) 95% CI</td>
<td>N (%) 95% CI</td>
</tr>
<tr>
<td>Southeast</td>
<td>119 (43.1) 37.1–49.1</td>
<td>198 (37.2) 33–41.4</td>
<td>374 (32.6) 29.8–35.4</td>
<td>311 (36.5) 32.2–39.7</td>
<td>1002 (35.7) 33.9–37.4</td>
<td>.007 .07</td>
<td></td>
</tr>
<tr>
<td>North-Northeast</td>
<td>100 (35.0) 29.4–40.8</td>
<td>189 (35.2) 31.1–39.4</td>
<td>313 (26.1) 23.6–28.7</td>
<td>239 (29.6) 26.4–32.8</td>
<td>841 (29.7) 28–31.4</td>
<td>&lt;.001 .008</td>
<td></td>
</tr>
<tr>
<td>West</td>
<td>219 (39.0) 34.9–43.1</td>
<td>387 (36.2) 33.3–39.1</td>
<td>687 (29.3) 27.4–31.1</td>
<td>550 (33.1) 30.8–35.4</td>
<td>1843 (32.7) 31.4–33.9</td>
<td>&lt;.001 .002</td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>311 (36.5) 32.2–39.7</td>
<td>374 (32.6) 29.8–35.4</td>
<td>311 (36.5) 32.2–39.7</td>
<td>311 (36.5) 32.2–39.7</td>
<td>1002 (35.7) 33.9–37.4</td>
<td>.007 .07</td>
<td></td>
</tr>
<tr>
<td>National</td>
<td>1002 (35.7) 33.9–37.4</td>
<td>374 (32.6) 29.8–35.4</td>
<td>311 (36.5) 32.2–39.7</td>
<td>311 (36.5) 32.2–39.7</td>
<td>1002 (35.7) 33.9–37.4</td>
<td>.007 .07</td>
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</tbody>
</table>

**Note:** The table shows the comparison of the prevalence of violence behavior and component of emotional problem in adolescents at national and subnational levels. The table includes data for boys, girls, and overall across different regions, including Southeast, North-Northeast, West, Central, and National. The prevalence is presented as N (%) along with the 95% confidence interval (95% CI) and p-values. The table also includes regions such as victim, bullying, physical fight, angeress, insomnia, confusion, and worthless, with respective prevalence data for boys and girls at national and subnational levels. The p-values indicate the statistical significance of the differences in prevalence across regions.

**Confidence interval for prevalence (%).**
Table 3. Mean and 95% Confidence Interval of Life Satisfaction Score in Adolescents at National and Subnational Levels: The "Childhood and Adolescence Surveillance and Prevention of Adult Non Communicable Disease" Study

<table>
<thead>
<tr>
<th>Region</th>
<th>Southeast</th>
<th>North-Northeast</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adjusted Mean</td>
<td>SE</td>
<td>95% CI of Mean</td>
</tr>
<tr>
<td>Life satisfaction score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>7.1</td>
<td>0.144</td>
<td>6.90–7.47</td>
</tr>
<tr>
<td>Girls</td>
<td>6.2</td>
<td>0.156</td>
<td>5.96–6.57</td>
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<tr>
<td>Overall</td>
<td>6.7</td>
<td>0.107</td>
<td>6.51–6.93</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Central</th>
<th>National</th>
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<tr>
<td></td>
<td>Adjusted Mean</td>
<td>SE</td>
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<td>Life satisfaction score</td>
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<tr>
<td>Boys</td>
<td>7.4</td>
<td>0.87</td>
</tr>
<tr>
<td>Girls</td>
<td>7.3</td>
<td>0.092</td>
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<tr>
<td>Overall</td>
<td>7.3</td>
<td>0.064</td>
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*Analysis of covariance adjusted for age. **Regions with significant differences in the post hoc analysis. CI, confidence interval.
disorders includes depression, anxiety, mental disorders, and crime, the study by Blazer et al showed that major depressive disorders were more common in urban regions. This pathway can explain why the psychiatric distress was more prevalent in the west and central regions of Iran.

The results of this study showed that nearly 30% of Iranian students, aged 10 to 18 years, had a victim or bullying experience and half of them had been in a physical fight. The prevalence of bullying victimization and physical fight were 35.5% and 50% among Filipino adolescents, aged 13 to 14 years. Of note, 31.5% of Venezuelan adolescents, aged 13 to 15 years, reported that they had been bullied and 31.1% have been in a physical fight. The prevalence of bullying victimization and physical fighting in the United States Youth Risk Behavior Survey was reported to be 20.1% and 32.8%. Our study declared that the prevalence of violent behavior among Iranian adolescents is the same as other developing countries and more than the United States.

In our study, approximately 48% to 54% of students had been in physical fight, and students from the southeast area (lowest SES) and from the north-northeast (the second low SES rank) had more victim and bullying experience than other regions of Iran. In Iran, Arab population and most of Turkmen resides in the southeast and in the north-northeast regions of Iran, respectively. The main activities of them are farmers and stockholder, and the highest unemployment rate is found in the southeast regions of Iran, so these population have the lowest SES among Iranian people. They are Sunni Muslims, and approximately 50% of them inhabit in rural areas. Similar to our study, previous studies showed that children of lower SES were more often bullies and victims. The pathways leading to this is not clear.

We investigated self-rated health (SRH) and life satisfaction among Iranian adolescents, aged 10 to 18 years. The mean of life satisfaction was 7 ± 0.36 (95% CI, 1.81–3.2) among adolescent student, aged 10 to 18 years, in Iran. The student living in the southeast area had minimum mean of life satisfaction in Iran. However, this region had maximum prevalence of victim and bullying experience. A previous study showed that violent behaviors were associated with reduced life satisfaction. The maximum general health and life satisfaction were observed in the north-northeast area. Some previous studies showed that the health status was related to life satisfaction.

The limitation of this study is its cross-sectional nature, so no causality of the findings can be inferred. The main strength of the study is that it was a population-based study about prevalence of violence behavior, psychiatric distress, and life satisfaction in different SES distress that covered all students at school entry from several geographic and SES distress, as well as based on our knowledge, this study is the first nationwide survey to assess the violence behavior and psychiatric distress with suitable sample size at subnational level in Iran and probably in Middle East and North Africa.

**CONCLUSIONS**

In our study, the prevalence of violence behavior and psychiatric distress at national and regional level was assessed. The results declared that psychiatric distress was more frequent in high socioeconomic status (SES) distress, whereas violence behavior was more frequent in the lowest SES distress. The students living in the north-northeast had higher self-rated health; as a result, they had higher life satisfaction level among Iranian students. Therefore, in communities with large variations in health and SES in regional level, health policies for primordial and primary prevention of mental and behavioral distress have to be made at regional levels.

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