The current study investigated (a) the relationship between self-esteem and health-risk behaviors and use of cigarettes, alcohol, and drugs, and (b) the gender differences in self-esteem and health-risk behaviors among a group of 243 late adolescents (124 males, 119 females) using a cross-sectional survey design. The age range of the participants was 17 to 24 with a mean age of 20.43 ($SD = 1.21$). Participants completed the Rosenberg Self-Esteem Scale and a self-report questionnaire including items about demographic characteristics and participation within a range of health-risk behaviors. The findings of the study revealed that self-esteem was negatively associated with alcohol and illicit drug use; however, these results did not suggest any significant relationship between self-esteem and smoking cigarettes. Comparisons between males and females did not indicate any gender differences on the self-esteem scale. On the other hand, significant gender differences were found on cigarette and drug use with males reporting more cigarette and drug use. Limitations of the study and possible implications for counseling practice are discussed.
feelings of worth and acceptance, which are developed and maintained as a consequence of awareness of competence, sense of achievement, and feedback from the external world” (p. 207).

According to Rosenberg (1965), high self-esteem indicates a personal sense of self-respect and self-worth, whereas low self-esteem implies self-dissatisfaction and self-rejection. While high self-esteem may be associated with an overall sense of well-being, low self-esteem may be related to risk behaviors and negative developmental outcomes (Connor, Poyrazli, Ferrer-Wreder, & Grahame, 2004). Several theorists have argued that individuals with low self-esteem are more predisposed to adopt risky behaviors (Wild, Flisher, Bhana, & Lombard 2004). Previous studies have also demonstrated a link between low self-esteem and health-risk behaviors such as smoking cigarettes (Kawabata, Cross, Nishioka, & Shimai, 1999), drinking alcohol (Young, Werch, & Bakema, 1989), and using illicit drugs (Gordon & Caltabiano, 1996).

There has been a significant increase in the prevalence of cigarette smoking globally. Smoking is an important public health problem in Turkey because it seems to be widely practiced and socially accepted (Korkut, 1996). Recent studies have shown that the prevalence of daily smoking among university students was approximately 50%, with male predominance in Turkey (Demirel & Sezer, 2005; Kaya & Çilli, 2002; Öksüz & Malhan, 2005; Saatçi, Inan, Bozdemir, Akpinar, & Ergun, 2004; Yildrim, 1997). Although some of the literature is inconsistent as to the exact nature of the relationship between self-esteem and smoking cigarettes (Byrne & Mazanov, 2001; Greenberg, Lewis, & Dodd, 1999), several studies have demonstrated a link between low self-esteem and increased cigarette use in adolescents (Carvajal, Viatretrek, Evans, Knee, & Nash, 2000; Kawabata, Cross, Nishioka, & Shimai, 1999; Penny & Robinson, 1986; Wild, Flisher, Bhana, & Lombard, 2004).

A number of studies have indicated that adolescents who refrain from drinking alcohol have higher self-esteem than do adolescents who drink (Young, Werch, & Bakema, 1989). For instance; Scheier, Botvin, Griffin, and Diaz, (2000) reported a significant association between low self-esteem and alcohol use. On the other hand, Steffenhagen and Steffenhagen (1985) did not find any significant correlation between self-esteem and drinking alcohol.

The first encounter with substance use often takes place in adolescence (Schwartz & Miller, 1997). Studies conducted in industrialized western countries in particular indicate an ever-increasing trend for illicit drug use. Findings of research that examined the self-esteem
and drug-use relationship has been mixed. Some studies have reported a statistically significant relationship between these two variables (Dielman, Leech, Lorenger, & Hovart, 1984; Wright & Moore, 1982), whereas others failed to find such a relationship (McGee & Williams, 2000). Schroeder, Laflin, and Weis (1993) reviewed the literature on the relationship between self-esteem and drug use and concluded that the association between low self-esteem and drug use is too small to be of practical value for explanation or prevention. Dielman et al. (1984) also concluded that the relationship between self-esteem and drug use was statistically significant, but not large enough to suggest that intervention programs be directed toward the enhancement of self-esteem.

Considerable research has focused on gender differences in self-esteem and health-risk behaviors among different groups. Although studies that evaluated these differences have produced conflicting results, most of them have supported the view that females have lower self-esteem (Cairs, McWhirter, Duffy, & Barry, 1990; Chubb, Fertman, & Ross, 1997; Kawabata et al., 1999; Nottelmann, 1987; Otsuki, 2003; Quatman & Watson, 2001). Similarly, O'Brien, Leitzel, Mensky, Jeffreys, and O'Brien (1996) reported in a meta-analysis of 80 studies on adolescent self-esteem that boys had slightly higher global self-esteem levels than did girls. With regard to gender differences in health-risk behaviors, several researchers (Barnes & Welte, 1983; Desimone & Murray, 1994; Reinherz, Giaconia, Lefkowitz, Pakiz, & Frost, 1993; Poikolainen, Tuulio-Henriksson, Aalto-Setälä, Marttunen, & Lömmqvist, 2001; Wild, Flisher, Bhana, & Lombard, 2004) concluded that males use alcohol, cigarettes, and illicit drugs at a higher rate.

In summary, the literature on self-esteem and health-risk behaviors seems contradictory. Inconsistencies in results might reflect sampling characteristics. To date, studies that evaluate self-esteem and health-risk behaviors have been conducted mostly in Euro-American populations. Since cross-national studies in this area are rare, self-esteem and risk behaviors in other cultures such as developing countries need to be investigated. It is therefore important to explore the relation between self-esteem and health-risk behaviors in a Turkish sample. Thus, this descriptive, correlational study was designed to examine that relationship in a group of college students. Another purpose of the study was to investigate potential gender differences.
METHOD

Participants
The sample for this study consisted of 243 undergraduate students from different departments of Middle East Technical University, a large urban state university. Of the respondents, 119 (49%) were female and 124 (51%) were male. The mean age of the participants was 20.43 ranging from 17 to 24 (SD = 1.21). Participation was voluntary and 243 of the 250 instruments were returned with a response rate of 97.2%.

Instruments
The Rosenberg Self-Esteem Scale (RSS) is a widely used self-report measure designed to assess level of global self-esteem (Rosenberg, 1979). It is a 10-item (Guttman scale in which respondents score statements on a four-point scale ranging from “strongly agree” to strongly disagree.” In the Turkish version, the scale was changed to “totally right” to “totally wrong” in the adaptation study of Çuhadaroglu (1985). The scores obtained from the RSS are between 0-6 with any score between 0-2 indicative of high self-esteem, and any score between 3-6 indicative of low self-esteem. The correlation between psychiatric interviews and the self-esteem scale was .71. Test-retest reliability of the scale was found to be .75 by Çuhadaroglu (1985).

The Demographic Information Form was developed by the researcher to obtain such background information of the participants as age and gender. The form also included items that asked students how often they had been involved in risk behaviors in three areas: cigarette, alcohol, and illicit drug use. Risk behaviors were determined by students’ self-reports based on a five-point Likert-type scale ranging from “never” to “most or all of the time”. Participants’ responses were then classified as nonusers, experimenters, and regular users.

Procedure
Respondents were administered two questionnaires that included a cover sheet describing the nature and aims of the study. The cover sheet noted that responses were anonymous, confidential, and voluntary. Detailed instructions were provided, and opportunities for questions were allowed by the researcher. The instruments were administered during class hours.

Data Analysis
First there were 7 cases with missing values which were excluded from the data analysis. Descriptive data such as frequencies and pro-
portions were computed. Pearson's chi-square tests were used to assess the statistical significance of the relationships between self-esteem and health-risk behaviors and also potential gender differences. The analysis used SPSS for Windows version 13.0. The level of significance was set at $p < .05$ for all statistical procedures.

RESULTS

Self-Esteem and Health-Risk Behaviors

In the current investigation, a majority of the students (79.4%) had a high level of self-esteem. In addition, 32 of the 124 males (25.8%) and 18 of the 119 females (15.1%) had low self-esteem levels. Table 1 provides the frequencies and percentages for the total sample ($n = 243$) in terms of self-esteem and health-risk behaviors. Of the participants, 74 (30.5%) were regular smokers, 33 (13.6%) were experimenters, and 136 (56%) were classified as non-smokers. A chi-square test

<table>
<thead>
<tr>
<th>Self-esteem</th>
<th>Cigarette User</th>
<th>Cigarette Experimenter</th>
<th>Cigarette Non-user</th>
<th>Alcohol User</th>
<th>Alcohol Experimenter</th>
<th>Alcohol Non-user</th>
<th>Illicit drug User</th>
<th>Illicit drug Experimenter</th>
<th>Illicit drug Non-user</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (n=193)</td>
<td>56</td>
<td>29</td>
<td>18</td>
<td>14</td>
<td>8</td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>177</td>
</tr>
<tr>
<td>Low (n=50)</td>
<td>18</td>
<td>36</td>
<td>4</td>
<td>12</td>
<td>8</td>
<td>36</td>
<td>5</td>
<td>7</td>
<td>38</td>
</tr>
<tr>
<td>$x^2$</td>
<td>2.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $p < .001$
was performed to determine the significance of the relationship between self-esteem and smoking behaviors. Results indicated no significant relationship between self-esteem and smoking status ($\chi^2 = 2.08, df = 2, p > .05$). About half of the participants (49.8%) stated that they had never drunk alcohol. Only 26 (10.7%) used alcohol regularly, and 96 (39.5%) had imbibed alcohol at least one time. The chi-square test of independence indicated that self-esteem and alcohol usage were dependent; there was a significant difference in the prevalence of alcohol use based on self-esteem ($\chi^2 = 11.73, df = 2, p < .001$). Accordingly, it can be said that non-user participants have a higher level of self-esteem than users. Most of the students (88.5%) stated that they had not used any illicit drugs. The rates for drug users (4.9%) and experimenters (6.6%) are similar. Analysis revealed that the high self-esteem group significantly differs from the low self-esteem group with respect to drug usage ($\chi^2 = 9.63, df = 2, p < .001$). Thus, drug usage is more prevalent in the low self-esteem group.

**Gender Differences in Self-esteem and Health-Risk Behaviors**

Possible gender effect on self-esteem scores was examined by the chi-square test of independence. However, comparison between males and females did not indicate any gender differences on the self-esteem scale ($\chi^2 = 3.61, df = 1, p > .05$). As shown in Table 2, the rate of smoking behavior was higher among males (38.7%) than females (21.8%). To determine if the observed difference between genders was statistically significant, an independent chi-square test was applied to the data with the results showing a statistical significance ($\chi^2 = 8.66, df = 2, p < .05$). Thus, it can be said that there were significant differences in prevalence of smoking behaviors based on gender due to greater prevalence among males. Although alcohol usage differs slightly between male (12.1%) and female (9.2%) students, the results did not support a significant association between self-esteem and reported alcohol usage ($\chi^2 = .56, df = 2, p > .05$). Findings of the study indicated a significant difference in drug use expressed by male and female participants ($\chi^2 = 8.71, df = 2, p < .05$): male students used illicit drugs more frequently than did females.

**DISCUSSION**

The current investigation examined the association among self-esteem, health-risk behaviors and gender by using a cross-sectional survey design. This study extended findings of other researchers by
Table 2.
Prevalence of Health Risk Behaviors by Gender

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>χ²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n= 124)</td>
<td>(n= 119)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Cigarette</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>48</td>
<td>38.7</td>
<td>26</td>
</tr>
<tr>
<td>Experimenter</td>
<td>13</td>
<td>10.5</td>
<td>20</td>
</tr>
<tr>
<td>Non-user</td>
<td>63</td>
<td>50.8</td>
<td>73</td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>15</td>
<td>12.1</td>
<td>11</td>
</tr>
<tr>
<td>Experimenter</td>
<td>49</td>
<td>39.5</td>
<td>47</td>
</tr>
<tr>
<td>Non-user</td>
<td>60</td>
<td>48.4</td>
<td>61</td>
</tr>
<tr>
<td>Illicit drug</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>11</td>
<td>8.9</td>
<td>1</td>
</tr>
<tr>
<td>Experimenter</td>
<td>9</td>
<td>7.3</td>
<td>7</td>
</tr>
<tr>
<td>Non-user</td>
<td>104</td>
<td>83.9</td>
<td>111</td>
</tr>
</tbody>
</table>

*p< .05

investigating health-risk behaviors and self-esteem in a different culture. On the basis of previous literature, the following health-risk behaviors were chosen as outcome measures in late adolescents: cigarette smoking, alcohol use, and illicit drug use.

Risk behaviors have caught the attention of Turkish researchers throughout the last decade. Although several surveys have tried to determine the prevalence of cigarette, alcohol, and drug use among different samples, a relationship between self-esteem and health-risk behaviors among university students has not been reported in the Turkish literature. Thus, there is uncertainty about the association and also about gender differences on these variables.

It was observed that smoking cigarettes is a common and socially acceptable behavior in Turkish society; thus it is more prevalent among late adolescents than alcohol and illicit drug use. Although some researchers support the hypothesis that smokers had lower self-esteem (Penny & Robinson, 1986), no relationship was found between self-esteem and smoking cigarettes in the present study (Bryne & Mazanov, 2001; Greenberg, Lewis, & Dodd, 1999; Modrein-Talbott, Pullen, Zandstra, Ehrenberg, & Muenchen, 1998; West & Sweeting, 1997),
males' consumption is significantly higher than that of females in terms of smoking cigarettes. This gender difference is consistent with several research findings in non-western countries among university students (Demirel & Sezer, 2005; Maziak & Mzayek, 2000; Tamin, Terro, Kassem, Ghazi, Khamis, Abdul, Hay, & Musharrafieh, 2003).

Alcohol usage was found to be significantly related to low level of self-esteem. The findings of this study are also in line with those that found a reverse relationship between alcohol use and self-esteem (Scheier, Botvin, Griffin, & Diaz, 2000; Young, Werch, & Bakema, 1989; Wild, Flisher, Bhana, & Lombard, 2004). In addition, results of the present study revealed that females and males did not differ significantly in their reported alcohol usage.

The use of illicit drugs is not as common among Turkish late adolescents as it is in their peers in western countries (Hibell, Anderson, Bjarnasson, Ahlström, Balakireva, Kokkevi, & Morgan, 2004); however, national studies have shown a rapid increase in prevalence of illicit drug use (Çorapçıoğlu & Ögel, 2004; Erdem, Eke, Ögel, & Taner, 2006; Ögel, Tamar, Evren, & Çakmak, 2001; Siyez & Aysan, 2006)). Results of this study yielded an association between self-esteem and illicit drug use; illicit drug users were more likely to have lower self-esteem. This confirms previous findings of an inverse relationship between self-esteem and illicit drug use among adolescents (Newcomb & Bentler, 1986). In addition, the genders differed significantly on reported illicit drug use; males appeared to use illicit drugs more than did females.

Gender differences in self-esteem have frequently been reported. In contrast to previous research (Abernathy, Massad, & Romano-Dwyer, 1995; Quatman & Watson, 2001; O'Brien et al., 1996), this study did not reveal any gender difference. This finding could be a result of changes in gender roles, socioeconomic development, modernization (Kağutçibaşı, 1986), and the equal status of females in Turkish higher education.

In sum, findings of this study revealed that both male and female students engage in health-risk behaviors at different rates. However, cigarette and illicit drug use were more common among males. In addition, alcohol and illicit drug use was significantly related to low self-esteem. Alcohol use and self-esteem levels of the participants did not differ with respect to gender. It is important to note that as emphasized by Wild, Flisher, Bhana, and Lombard (2004), low self-esteem alone is unlikely to provide an adequate etiological explanation for the range of risk behaviors adolescents may engage in. Moreover, these findings
must be considered within the limitations of the study. Due to the sampling method, the self-report nature of the study, and the cultural variation, these findings should be considered as suggestive rather than directly generalizable to other population groups. The findings of the present study might provide significant clues for understanding the links between self-esteem and health-risk behaviors and might help university counseling staffs develop appropriate preventive strategies and remediation interventions for dealing with late adolescents' low self-esteem and health-risk behaviors.

REFERENCES


