

# Prevalence of Substance Use among Adolescents Participating in Apprenticeship Training and the Relationship Between Anger Level–Anger Expression and Addiction Severity

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## SUMMARY

**Objectives:** This study aimed to determine the prevalence of substance use among adolescents participating in apprenticeship training and the relationship between anger level–anger expression and addiction severity.

**Methods:** This cross-sectional study was conducted with 112 adolescents participating in a vocational training center in November 2015. Data were collected using the Personal Information Form, Addiction Profile Index Adolescent Form (API-A), and State-Trait Anger Expression Inventory (STAEI). Descriptive statistics and Pearson correlation were used to perform the analysis.

**Results:** The results of the API-A revealed that of the adolescents, 7.1% used alcohol every day, 9.8% used an illegal substance, 11.6% tried an illegal substance once or twice, and 78.6% had never used any substance. According to the cut-off point of the API-A, 53.6% of the adolescents who regularly used substances were determined to have clinically significant substance use-related problems. Although a strong positive correlation was determined between addiction severity and anger level and extrinsic anger, a moderate positive correlation was determined between intrinsic anger and addiction severity, and a negative correlation was determined between controlled anger and addiction severity ( $p < 0.01$ ).

**Conclusion:** This study determined that 10% of the participating adolescents used an illegal substance and that the addiction level was serious in about one out of two adolescents who regularly used a substance. The substance addiction level in adolescents increased as their trait anger, anger-in, and anger-out levels increased and anger control level decreased. Therefore, inter-institutional cooperation should be established, initiatives should be scheduled, adolescents should be regularly observed for substance use, and anger management in adolescents should be developed to prevent and intervene in substance use and addiction among working adolescents at an early stage.

**Keywords:** Adolescent; anger; dependence; psychiatric nurse; substance abuse.

## ÖZET

**Amaç:** Bu araştırmada çıraklık eğitimine devam eden ergenlerde madde kullanım sıklığının belirlenmesi, öfke düzeyi ve öfke ifade tarzı ile bağımlılık şiddeti arasındaki ilişkinin saptanması amaçlanmıştır.

**Gereç ve Yöntem:** Kesitsel tipteki araştırma Kasım 2015 tarihinde bir mesleki eğitim merkezine devam eden 112 ergenle yürütülmüştür. Veriler Kişisel Bilgi Formu, Bağımlılık Profil İndeksi Ergen Formu (BAPİ-E), Sürekli Öfke ve Öfke İfade Tarzı Ölçeği (SÖÖTÖ) ile toplanmıştır. Çözümlemede tanımlayıcı istatistikler ve Pearson korelasyon analizinden yararlanılmıştır.

**Bulgular:** Araştırmada BAPİ-E'ye göre ergenlerin %7.1'inin her gün alkol kullandığı belirlenmiştir. Ayrıca ergenlerin %9.8'inin herhangi bir yasa dışı maddeyi kullandığı, %11.6'sının bir-iki kez denediği ve %78.6'sının hiç kullanmadığı saptanmıştır. BAPİ-E kesme noktasına göre madde kullanan ergenlerin %53.6'sının klinik olarak anlamlılık taşıyan madde kullanım sorunu yaşadığı belirlenmiştir. Öfke düzeyi ve dışa yöneltilen öfke ile bağımlılık şiddeti arasında pozitif yönde güçlü, içe yöneltilen öfke ile bağımlılık şiddeti arasında pozitif yönde orta düzeyde, kontrol altına alınmış öfke ile bağımlılık şiddeti arasında ise negatif yönde orta düzeyde ilişki bulunmuştur ( $p < 0.01$ ).

**Sonuç:** Araştırmada ergenlerin yaklaşık %10'unun yasa dışı madde kullandığı, düzenli olarak madde kullanan iki ergenden birinin madde bağımlılık düzeyinin ciddi boyutlarda olduğu belirlenmiştir. Ergenlerin sürekli öfke, içe ve dışa yöneltilen öfke düzeyi arttıkça ve öfke kontrolü azaldıkça bağımlılık şiddetinin arttığı saptanmıştır. Bu doğrultuda riskli bir grup olan çalışan ergenlerde madde kullanımı ve bağımlılığının önlenmesine veya erken müdahalesine yönelik kurumlar arası işbirliği yapılarak girişimler planlanmalı, ergenler madde kullanımı açısından düzenli olarak izlenmeli ve ergenlerin öfke yönetimi becerileri geliştirilmelidir.

**Anahtar sözcükler:** Ergen; öfke; bağımlılık; psikiyatri hemşiresi; madde kullanımı.

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## Introduction

Adolescence is a transitional period from childhood to adulthood in which biological, psychological, mental, and social development takes place.<sup>[1,2]</sup> Risky behaviors, which begin to be exhibited in this period, negatively affect the development process in adolescents. They also pose a danger to the health of adolescents and community. One of these risky behaviors is substance abuse.<sup>[1,3,4]</sup> Substance abuse is

one of the preventable problems that start in adolescence, which is defined by the World Health Organization as the period between the ages of 10 and 19 years, and threaten life by turning into an addiction and impairing the physical and mental health of individuals at later ages.<sup>[1,5-7]</sup> It is reported by World Health Organization that substance abuse causes three fourths of deaths due to accidents, suicides, and murders between the ages of 15 and 24 years, and that substance use also poses a risk in terms of other risky behaviors such as violence, unintended pregnancies, and unprotected sex.<sup>[8]</sup> Although the prevalence of substance abuse is lower in Turkey compared with other countries,<sup>[4,5,9]</sup> recent studies showed that substance abuse is getting more common among adolescents and the onset age of substance abuse has decreased.<sup>[10-18]</sup>

Adolescents who work in young population form a group that should be discussed separately in terms of substance abuse.<sup>[19-21]</sup> The fact that, on the one hand, adolescents who work try to cope with changes because of the period, and on the other hand, they take adult responsibility at their early ages by entering into work life increases many risks in physical, psychological, and social terms.<sup>[19,22]</sup> Studies in the literature have reported that substance abuse is more common among the adolescents working compared with their peers who do not work and that the prevalence of lifelong alcohol use is 12.0%–39.1%, while the prevalence of use of other addictive substances such as cannabis, heroin and cocaine ranges from 1.1% to 9.0%.<sup>[19-21]</sup>

Psychological, social, and cultural factors play an important role for adolescents to get to know the substance and to start using it. The risk factors in terms of substance abuse during this period include individual characteristics such as hyperactivity, antisocial behaviors, having difficulty in social relationships, and quick temper.<sup>[5,7,23,24]</sup> Anger, which has an important place in daily life, is a highly natural and universal feeling in response to unsatisfied desires, unwanted results, and expectations not met.<sup>[25,26]</sup> Although anger is a natural feeling, it may cause physical, mental, and social problems when it is not controlled.<sup>[26-29]</sup> Studies showed that a high level of anger is related to cigarette, alcohol, and drug abuse.<sup>[26,29-31]</sup>

Although uncontrollable anger has many negative results, no studies have been conducted on the relationship between anger and substance abuse in Turkey. Although working adolescents form an important risk group in terms of substance abuse, it is observed that the number of relevant studies is limited in these groups.<sup>[19-21]</sup> Considering that young people have priority for the protection and promotion of health during adolescence in which the foundations of a healthy life are laid, the examination of substance abuse, especially in working adolescents, and the determination of risk factors gain importance for performing preventive practices. The aim of this study was to determine the prevalence of substance use

among adolescents participating in apprenticeship training and the relationship between anger level–anger expression and addiction severity.

Answers were sought for the following key questions:

1. What is the prevalence of substance abuse among adolescents participating in apprenticeship training?
2. Does any relationship exist between anger level and anger expression, and addiction severity?

## Materials and Method

### Type of the Study

A descriptive research design was used in the present study.

### Population and Sample of the Study

The population of the study consisted of 131 adolescents who were studying at an apprenticeship training center in Bandırma District of Balıkesir Province in November 2015. The sample size was not calculated in the study, and the aim was to reach the entire population. This study was completed within five working days because the adolescents who were receiving education in different job fields came to the center once in a week and with the purpose of preventing them from affecting each other. A total of 112 adolescents, who were not absent from the center on the dates the study data were collected, were aged between 15 and 18 years, agreed to participate in the study, and did not have missing data, constituted the study group. The participation rate was calculated to be 85.5%.

### Data Collection Tools

The data were collected using the Personal Information Form including the introductory information about the students, Addiction Profile Index Adolescent Form (API-A), and State-Trait Anger Expression Inventory (STAEI).

**Personal Information Form:** This form included 12 questions including the sociodemographic characteristics of adolescents such as age, sex, number of siblings, educational level of mother and father, professions of mother and father, family type, income level, and job fields.

**Addiction Profile Index Adolescent Form: API-A** was developed by Ögel et al (2012) to assess the dimensions of addiction and measure the severity of addiction among adolescents aged between 15 and 18 years. The scale consisted of 25 items and 5 subdimensions including the characteristics of substance and substance use, dependency diagnosis, the effect of substance use on the person's life, craving, and motivation. It was a 5-point Likert-type scale having answer options as follows: "never," "only once or twice," "one to three times in a month," "one to five times in a week," and "every day." In

the validity and reliability study of the scale, the Cronbach's alpha coefficient was found to be 0.87 and the cut-off point was found to be 2.<sup>[32]</sup> However, the Cronbach's alpha coefficient in the present study was calculated to be 0.96.

**State-Trait Anger Expression Inventory:** The inventory was developed by Spielberger to determine the anger levels and anger expression styles in adolescents. Its validity and reliability study in Turkey was conducted by Özer in 1994. The STAEI was a 4-point Likert-type scale consisting of 34 items and 2 subdimensions including trait anger and anger expression style. The subdimension of anger expression style also included three different subscales including anger-in, anger-out, and anger control. The increase in the scores obtained from the trait anger subdimension indicated that the anger level was high. The increase in the scores obtained from the anger-in subdimension indicated that the anger was suppressed. The increase in the scores obtained from the anger-out indicated that the anger was easily expressed. Moreover, the increase in the scores obtained from the anger control indicated that the anger could be controlled. The validity and reliability study of the scale found the Cronbach's alpha coefficients to be 0.79 for the trait anger subdimension; 0.62 for the anger-in subdimension; 0.78 for the anger-out subdimension; and 0.84 for the anger control.<sup>[33]</sup> The Cronbach's alpha coefficients of the scale were calculated to be 0.89 for the trait anger subdimension; 0.78 for the anger-in subdimension; 0.91 for the anger-out subdimension; and 0.82 for the anger control.

### Conduct of the Study

An official approval was received from the center in the process of research planning. Before conducting the study, the pilot study was conducted with the ten students, and necessary changes were made to the questionnaire form. According to the Vocational Training Law No. 3308, adolescents receive theoretical information and culture courses about the job field they study 1 day in a week in the vocational training center, and they go to their workplace on other days. The teaching program in this center was prepared by the way of allocating each day of the week to the different student groups according to the job fields. Therefore, the first group of students continues their training on Mondays, whereas the second group of students goes to the center, and on other days of the week, different student groups receive education. In this respect, the data of the study were collected by receiving approval from the teachers, according to the teaching program of the vocational education center during a course hour on the days when the adolescents were present in the center. During the data collection process, the teachers were asked to go out of the class, and it was explained to the students that their data would be kept confidential to win the confidence of adolescents and obtain the accurate information because substance use is not approved generally in the

society and it is an extremely sensitive matter. Afterward, the aim of the present study was explained to the students, and their verbal consents in terms of participating in the study were received. The data were collected by the researcher within a course hour. It lasted approximately 40 min to apply the data collection tools.

After the data collection process, the adolescents were provided with group training and personal counseling related to the harms of substance abuse, results of substance use, false beliefs about substances, development of addiction, skills of rejecting substance, protection from substance abuse, and treatment of substance dependence to inform and enable them to raise awareness in accordance with the study results.

### Data Analysis

The data were analyzed using SPSS version 18.0 statistical package program (SPSS, IL, USA). The descriptive statistics were used to analyze the data. The prevalence of alcohol and substance use in adolescents was assessed in five categories: "never," "only once or twice," "one to three times in a month," "one to five times in a week," and "every day." The adolescents who were using substance one to three times in a month, one to five times in a week, and every day were regarded as regularly using the substance. The addiction severity of the adolescents who were found to use substance was determined by considering the cut-off point of API-A. Pearson correlation analysis was used to determine the relationship between anger level–anger expression and addiction severity because the data showed a normal distribution ( $p > 0.05$ ) according to the Kolmogorov–Smirnov test. The results were assessed at the significance level of  $p < 0.05$ .<sup>[34]</sup>

### Results

The mean age of adolescents comprising the research group was found to be  $16.99 \pm 1.06$ ; of them, 81.2% were males. Of the adolescents, 74.1% stated that they perceived their health well, 97.3% stated that they did not have any chronic disease, 60.7% stated that they had a nuclear family, and 62.5% stated that their economic situation was at a moderate level. The mothers of 50% and the fathers of 48.2% of the group were primary school graduates, and the mothers of 75.9% were housewives and the fathers of 53.6% were laborer–civil servant.

The adolescents were continuing their education in the job fields of beauty and hair case services (29.5%), motor vehicle technology (16.1%), metal technology (15.2%), electric–electronic technology (12.5%), construction technology (9.8%), wood technology (8.9%), and food and beverage services (8.0%).

The prevalence of substance abuse in adolescents is shown in Table 1. According to API-A, 7.1% of the adolescents

**Table 1.** Adolescents' prevalence of substance abuse\* (n=112)

| Maddeler  | Never |      | Only once or twice |      | One to three times in a month |      | One to five times in a week |      | Every day |     |
|---|-------|------|--------------------|------|-------------------------------|------|-----------------------------|------|-----------|-----|
|   | n     | %    | n                  | %    | n                             | %    | n                           | %    | n         | %   |
| Alcohol   | 26    | 23.2 | 21                 | 18.8 | 37                            | 33.0 | 20                          | 17.9 | 8         | 7.1 |
| Cannabis (Marijuana, joint, powdered marijuana, etc.) | 91    | 81.2 | 11                 | 9.8  | 4                             | 3.6  | 3                           | 2.7  | 3         | 2.7 |
| Ecstasy   | 103   | 92.0 | 5                  | 4.5  | —                             | —    | 1                           | 0.9  | 3         | 2.7 |
| Heroin  | 109   | 97.3 | 1                  | 0.9  | —                             | —    | 2                           | 1.8  | —         | —   |
| Cocaine   | 107   | 95.5 | 3                  | 2.7  | —                             | —    | 2                           | 1.8  | —         | —   |
| Stone (crack cocaine)                                 | 104   | 92.9 | 4                  | 3.6  | —                             | —    | —                           | —    | 4         | 3.6 |
| Pills such as Rohypnol and Rivotril                   | 105   | 93.8 | 4                  | 3.6  | —                             | —    | —                           | —    | 3         | 2.7 |
| Volatile substance (thinner, bally, gas)              | 101   | 90.2 | 6                  | 5.4  | 1                             | 0.9  | 2                           | 1.8  | 2         | 1.8 |
| Various pills (Akineton, Tantom, Xanax, etc.)         | 103   | 92.0 | 5                  | 4.5  | 2                             | 1.8  | —                           | —    | 2         | 1.8 |
| Amphetamine derivatives (methamphetamine, ice, etc.)  | 107   | 95.5 | 2                  | 1.8  | 1                             | 0.9  | —                           | —    | 2         | 1.8 |
| Other (LSD, GHB, etc.)                                | 107   | 95.5 | —                  | —    | 2                             | 1.8  | 1                           | 0.9  | 2         | 1.8 |

\*Multiple options were chosen.

**Table 2.** Addiction severity of the adolescents\*

| Addiction Profile Index Adolescent Form (API-A) | Addiction severity |      |
|---|--------------------|------|
|   | n                  | %    |
| Addiction Profile Index Adolescent Form <2      | 32                 | 46.4 |
| Addiction Profile Index Adolescent Form ≥2      | 37                 | 53.6 |

\*The adolescents who regularly use the substance (one to three times in a month, one to five times in a week, and every day) were taken into consideration.

**Table 3.** The distribution of adolescents' trait anger-anger expression style mean scores (n=112)

| Subscales of the scale | Mean±SD    | Minimum-Maximum | Score range of the scale |
|------------------------|------------|-----------------|--------------------------|
| Trait anger            | 24.17±8.06 | 12-40           | 10-40                    |
| Anger-in               | 18.56±5.27 | 12-32           | 8-32                     |
| Anger-out              | 20.31±6.36 | 10-32           | 8-32                     |
| Anger control          | 17.53±4.15 | 10-28           | 8-32                     |

SD: Standard deviation.

**Table 4.** Relationship between trait anger-anger expression style and addiction (n=112)

| Variables        | 1       | 2       | 3       | 4       |
|------------------|---------|---------|---------|---------|
| 1. Trait anger   | 1       |         |         |         |
| 2. Anger-in      | 0.787*  | 1       |         |         |
| 3. Anger-out     | 0.937*  | 0.862*  | 1       |         |
| 4. Anger control | -0.705* | -0.514* | -0.623* | 1       |
| 5. API-A         | 0.798*  | 0.642*  | 0.781*  | -0.502* |

\*p&lt;0.01

were found to drink alcohol every day. Of the adolescents, 9.0%, 3.6%, 1.8%, 3.6%, 2.7%, 4.5%, 3.6%, 2.7%, and 4.5% were found to use cannabis regularly; ecstasy; heroin and cocaine; crack cocaine; substances such as Rohypnol and Rivotril; volatile substance; pills such as Akineton and Xanax; amphetamine derivatives; and substances such as Gamma-

Hydroxybutyrate (GHB) and Lysergic Acid Diethylamide (LSD), respectively.

The addiction severity of adolescents is shown in Table 2. According to the cut-off point of API-A, 53.6% were found to obtain a score of 2 and higher (33.0% within the total, n=37) and to have serious substance abuse problem.



The distribution of adolescents' trait anger and anger expression style mean scores is shown in Table 3. The mean scores of adolescents were found to be  $24.17 \pm 8.06$  for trait anger;  $18.56 \pm 5.27$  for anger-in;  $20.31 \pm 6.36$  for anger-out; and  $17.53 \pm 4.15$  for anger control.

A strong positive relationship was found between the anger level ( $r=0.798$ ) and anger-out ( $r=0.781$ ), and addiction severity. A moderate positive relationship was found between anger-in ( $r=0.642$ ) and addiction severity. A moderate negative relationship was found between anger control ( $r=-0.502$ ) and addiction severity ( $p<0.01$ ) (Table 4).

## Discussion

Substance addiction is an important social problem of this age. Although the prevalence of substance abuse in Turkey is lower compared with other countries,<sup>[4,5,9]</sup> the rates of substance abuse have differed by regions and type of substances and they generally have shown an increase in recent years.<sup>[12-18]</sup> However, the number of studies assessing the prevalence of psychoactive substance use among working adolescents who form a risk group, and the factors affecting it, is quite low. Therefore, the determination of risk factors becomes important for performing preventive practices. Aiming to determine the prevalence of substance abuse among the adolescents participating in apprenticeship training and their addiction severity, and the relationship between anger level-anger expression and addiction severity, the present study found that the prevalence of alcohol use during the period when the study was conducted was 58.0%. Also, of the adolescents, 33.0%, 17.9%, and 7.1% stated that they consumed alcohol one to three times; one to five times in a week, and every day, respectively. The prevalence of using alcohol at least once was found to be 39.1% in a screening conducted in Mersin Province with young people receiving education in a vocational training center; 37.3% in a study conducted in Ankara with young people participating in an apprenticeship training in 2005; and 12.0% in another study conducted in Sivas Province with the apprentices working in the industrial zone in 2000.<sup>[19-21]</sup> It could be stated that the rate of alcohol use found in the present study was higher than that found in these mentioned studies. This result might have stemmed from the difference in the examination of substance abuse (lifelong use, use in the recent year, use in the recent month, etc.). Moreover, the Chronic Diseases and Risk Factors Survey in Turkey conducted in 2013 showed that the prevalence of alcohol use among young people aged between 15 and 24 years was higher in West Marmara Region including Balıkesir Province, compared with other regions. It could be stated that this finding was consistent with the result of the present study.<sup>[35]</sup> In addition to this, the increase in the rate of substance use in recent years might have affected this

result. As a matter of fact, studies conducted with high school students in recent years have shown that the prevalence of alcohol use at least once in a lifetime varies between 10% and 69%.<sup>[10,12-18]</sup> This indicates that alcohol use has increased among adolescents in recent years. It can be stated that further studies are required to determine the current situation in working adolescents.

Studies conducted in Turkey on substance abuse among adolescents have stated that the most frequently used substance following cigarette and alcohol is cannabis.<sup>[14]</sup> A study conducted with high school students found the prevalence of cannabis used to be 2.9%.<sup>[17]</sup> Similarly, Ünlü and Evcin<sup>[14]</sup> and Pumariega et al.<sup>[16]</sup> reported that the prevalence of using cannabis at least once in a lifetime was 3.3% among high school students. According to API-A, the present study found that 9.0% of the adolescents were using cannabis regularly during the period when the study was conducted. A study conducted in Mersin with young people receiving education in the apprenticeship training center in 2005 found the prevalence of using any illegal substance for a lifetime to be 4.2%.<sup>[19]</sup> According to the examination of results, it could be stated that the rate of cannabis use found by the present study was higher than that found in the studies conducted with both high school students and adolescents receiving education in apprenticeship centers. The literature emphasizes that substance abuse has increased in the last decades in Turkey just as all around the world.<sup>[3,16]</sup> However, the fact that no study examining the frequency of substance abuse among working adolescents and the factors affecting it in Turkey in recent years was found makes the result indicating that the substance abuse has reached alarming levels to be assessed difficult. Therefore, repeating the studies examining the frequency of substance use among working adolescents and the related factors at local and national levels may help the gap in the literature to be filled.

Another important finding obtained from the present study was that according to API-A, the prevalence of regularly using volatile substances (thinner, bally, gas, etc.) among the working adolescents was 4.5%. Moreover, 5.4% of the adolescents stated that they tried volatile substances once or twice. When the substances are sorted by the prevalence of their use, cannabis is followed by the volatile substances. The fact that inhalants having various types are not illicit, and are cheap and easy to reach causes its prevalence of use to increase.<sup>[36,37]</sup> However, although it is thought that this problem has increased gradually in recent years, the number of studies on the volatile substance use among working adolescents is highly limited in Turkey.<sup>[21]</sup> A study conducted in Sivas Province with the apprentices working in the industrial zone found the rate of volatile substance used to be 9.1%.<sup>[21]</sup> Another study conducted with high school students found

the prevalence of using volatile substances at least once in a lifetime to be 8.6%.<sup>[38]</sup> Another study conducted with 12,270 secondary school students in 9 cities across Turkey found the prevalence of lifelong volatile substance use to be 5.1%.<sup>[36]</sup> The examination of results shows that the prevalence of volatile substance use among adolescents varies and that the prevalence of using volatile substances at least once found in the present study was higher. When the previous studies are considered, it can be stated that the volatile substance use has increased. This may have resulted from the increase in the prevalence of substance abuse in recent years and from the difference in research designs, age groups, measurement tools, and cultural features.

The risk of young people in adolescence getting to know about addictive substances is higher than that in other periods. A study that examined the characteristics of volatile substance users emphasized that these individuals began using substance at early ages and it created a step to transfer to the use of other substances.<sup>[39]</sup> It is stated that social activities (game arcade, internet cafes, entertainment lounges, Turkish coffeehouses, music lounges), which are away from inspection and control, unstructured, and performed only to spend time in crowded places, today pose a risk for substance abuse.<sup>[40]</sup> Furthermore, the use of ecstasy and other similar stimulant substances is gradually increasing because of the effect of a change in entertainment culture.<sup>[41]</sup> This study found the prevalence of other narcotics and stimulants use among the working adolescents during the period when the present study was conducted to be 3.6% for ecstasy drugs such as Akineton, Tantum, and Xanax; 3.6% for stone (crack cocaine); 2.7% for pills such as Rohypnol and Rivotril (Roche); 2.7% for amphetamine derivatives (methamphetamine, ice, etc.); 1.8% for cocaine and heroin; and 4.5% for substance such as LSD and GHB. A study conducted in Mersin with young people receiving education in the apprenticeship training center found the prevalence of using any illegal substance for a lifetime to be 4.2%.<sup>[19]</sup> A study conducted with 18,599 high school students in 15 cities found the prevalence of using narcotics at least once in a lifetime to be 3.3%. It was reported that the prevalence of heroin use was 0.4%–3.9% in the last 12 months and that the prevalence of benzodiazepine use varied between 1.1% and 5.1%.<sup>[38]</sup> A study conducted with 31,272 students aged between 14 and 18 years in 28 districts of İstanbul Province found the prevalence of using substance at least once in a lifetime to be 1% for cocaine; 1.4% for amphetamines; 1.6% for ecstasy; and 1.2% for LSD.<sup>[14]</sup> A study conducted with high school students in Erzincan found that 0.1% of the students used cocaine and 0.7% used ecstasy in the recent years.<sup>[42]</sup> Another study conducted with high school students in Samsun found the rate of students who stated that they used any substance in their

lifetime to be 3.1%.<sup>[13]</sup> A study conducted with 31,272 high school students in İstanbul found the prevalence of using any other illicit substance except for cannabis to be 9.2%.<sup>[16]</sup> According to these results, it can be stated that the prevalence of narcotic-stimulant substance use varies and is considerably high. Furthermore, the present study found that according to API-A cut-off point, the adolescents ( $n=37$ ) who obtained a score of 2 and higher have a substance abuse problem at a critical level. This finding indicated that substance abuse was an important problem among the working adolescents, and suggested that the working adolescents should be monitored in terms of substance abuse and the necessary precautions should be taken by determining the relevant risk factors.

The risk factors in terms of substance abuse include individual characteristics such as hyperactivity, short attention span, antisocial behaviors, having difficulty in social relationships, and quick temper.<sup>[5,7,23,24]</sup> The present study found that the trait anger and anger-out of adolescents participating in an apprenticeship training were at moderate levels and they had difficulties controlling anger. Moreover, it was found that the addiction severity increased as the trait anger, anger-in, and anger-out levels increased and the anger control level decreased. Anger, pressure, frustration, disillusionment, and fear are emotional responses given by individuals when their rights are violated. If these responses are not controlled, they may cause physical, mental, and social problems.<sup>[25–28]</sup> Studies conducted with adolescents reported that a high level of anger is related to the use of cigarette, alcohol, and other narcotic substances.<sup>[19,22]</sup> Many risks in physical, psychological, and social terms increase among adolescents who take adult responsibility at their early ages by entering into work life and try to cope with changes because of the period.<sup>[20–23]</sup> In foreign studies, it was stated that the prevalence of emotional problems such as anger, anxiety, and depression, and behavioral problems such as substance abuse was higher.<sup>[22,43]</sup> The number of studies examining the substance abuse among the working adolescents and factors affecting it is limited in Turkey.<sup>[19–21]</sup> It was observed that certain substance types were focused in these studies. Moreover, no study examined the relationship between substance abuse and anger. It can be stated that further studies are needed to specify the strategies for preventing substance abuse among working adolescents. Also, it becomes important for psychiatric nurses to consult adolescents, their families, and society; provide education and counseling services about the topics such as protection from risky behaviors and anger management for the preventive mental health in school; develop the life skills of adolescents; determine the risky groups; and perform their monitoring, to prevent substance abuse and addiction.

### Limitations of the Study

The findings of this study are important in terms of deter-

mining the prevalence of the use of all psychoactive substances among the adolescents participating in an apprenticeship training and also examining the relationship between anger level–anger expression styles. The findings of this study support the concerns about the increase in the prevalence of substance use among the adolescents. However, the study had some limitations. This study was conducted with a relatively small group. Hence, the generalization of results and the fact that the adolescents working informally were not reached were important limitations of the study.

### Conclusion and Recommendations

This study found that approximately 10% of the adolescents used illicit substances, and the substance addiction level of one out of two adolescents using substances regularly was at a critical level. It was found that as the trait anger, anger-in, and anger-out levels of adolescents and their anger control decreased, their addiction severity increased. In this respect, certain interventions should be planned with inter-institutional cooperation for the prevention or early intervention of substance abuse among working adolescents, who form a risky group because the substance use tends to increase gradually among adolescents. In addition to vocational courses, trainings related to substance use should be provided in vocational education centers, and the adolescents' families, school, and work environment should also be included in these training programs. Because adolescents who cannot control their anger pose risk in terms of substance abuse, the anger management skills of adolescents should be developed, and they should be directed to activities such as music and sports in which they are interested. Adolescents should regularly be monitored in terms of substance abuse and addiction, and they should be provided with psychological counseling and guidance services at the right time. Moreover, further studies should be conducted with larger samples to explain the current situation about the substance abuse among working adolescents in a better way and generalize the results.

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