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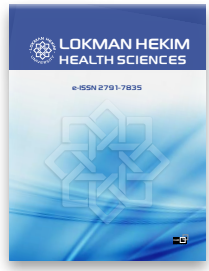

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ORIGINAL ARTICLE

A Comparative Descriptive Study on Tobacco and Alcohol Use Patterns in a Turkish Foundation University

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Abstract

Introduction: Tobacco and alcohol are prevalent risk behaviours on university campuses, yet comparative evidence for students versus staff in Türkiye is limited. We described prevalence, age of initiation, use motives, and co-use patterns, and derived actionable implications for campus policy and practice.

Methods: A cross-sectional, campus-wide online survey was conducted between November 2024 and May 2025 at a Turkish foundation university with the students and staff. Measures included use status, age of initiation, frequency, quit attempts, and use motives (dependence/routine, coping with negative affect, enhancement, social). A composite co-use score (0–2: neither/one/both) summarised concurrent tobacco–alcohol use. Group differences were tested at α=0.05.

Results: The study included 370 individuals: 230 students and 167 staff. Students reported higher tobacco and alcohol use and earlier initiation than staff (all $p<0.05$). Co-use was more frequent among males. Students more often endorsed coping and enhancement motives, whereas staff relatively more often cited social reasons for drinking.

Discussion and Conclusion: Findings support implementing smoke-free/nicotine-free campus policies, strengthening campus-based cessation services, and integrating peer-support and wellbeing programmes that address stress-related motives, alongside routine monitoring and evaluation. Interpretation should consider convenience sampling, single-site design, self-report data, and the coarse nature of the co-use indicator.

Keywords: Alcohol; Tobacco; Tobacco–alcohol co-use; University students.

The use of tobacco and alcohol is widely observed among young adults on a global scale and constitutes a significant behavioral risk factor with serious health and social consequences.[1] Tobacco use poses a major cause of morbidity and mortality, affecting not only users themselves but also individuals exposed to secondhand smoke.[2] According to the World Health Organization's (WHO) 2023 data, tobacco use causes more than 8 million deaths

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annually, of which approximately 1.3 million are attributed to secondhand smoke exposure.[2] The multi-country analysis by Li and Raftery[1] covering more than 60 countries also demonstrates that tobacco-attributable mortality is significant for both men and women and is particularly pronounced among young adults.

Alcohol use, similarly, is associated with a wide range of adverse outcomes, including liver diseases, accidents, and mental health problems, and remains a major global public health issue.[3] The WHO's 2024 global report indicates that approximately 20% of individuals aged 15 years and older have consumed alcohol within the past year, with this rate being even higher among university-aged young adults.[3] In higher education settings, alcohol consumption is shaped not merely by individual preferences but also by prevailing social norms, academic stress, and peer influence.[4]

The university period represents a transitional phase in which individuals gain psychosocial autonomy, experience reduced parental supervision, and become increasingly influenced by peers.[5] Health-related behaviors acquired during this stage may evolve into long-term dependence-related or routine use later in life; thus, the university phase is considered a vulnerable period in terms of substance use behaviors. Recent research shows that tobacco and alcohol use rates among university students are higher compared to the general population.[6] This disparity is not solely related to individual psychopathology but is also closely linked to university-specific social norms, perceived freedom, and stress levels.[7]

Tobacco and alcohol use is not only a matter of physical dependence, but also often serves as a coping strategy for stress, a means of seeking social acceptance, and a way to attain psychological relief. Common motivations for engaging in such behaviors include socialization, coping with academic stress, and a sense of belonging within peer groups. Nevertheless, these motivations vary across different cultural contexts and sociodemographic backgrounds.[7]

In the context of Türkiye, recent national data reveal concerning patterns regarding substance use. According to the "Non-Communicable Disease Risk Factors Household Survey" conducted by the Turkish Ministry of Health in 2023, the prevalence of current tobacco use among individuals aged 15 and older was 31.2%, while regular alcohol consumption was reported by 4.7% of the population.[8] Although alcohol use rates are relatively low compared to global averages, tobacco use remains a significant public health issue in Türkiye, particularly among young adults. When compared with data from 2017, the prevalence of tobacco use has shown a slight decrease, yet the initiation age has declined, indicating earlier onset of use.[8] Nevertheless, most of the existing studies have been conducted using general population samples.[9,10] Studies specifically comparing tobacco and alcohol use behaviors between subgroups within universities—such as students and academic or administrative staff—remain relatively scarce. However, comparisons among students from different faculties have shown that tobacco and alcohol use rates may differ depending on the type of faculty.[11] Moreover, there is a noticeable lack of research that systematically addresses the psychosocial motivations underlying tobacco and alcohol use within local cultural contexts.[12] This gap hinders the development of context-sensitive intervention strategies within university settings.

In this descriptive study, the tobacco and alcohol use characteristics of students and university staff at Lokman Hekim University were examined. Particular attention was given to differences across subgroups in variables such as age of initiation, frequency of use, gender distribution, and reasons for use. The findings aim to inform the development of targeted and inclusive prevention and intervention strategies at the university level.

Materials and Methods

Study Place and Design

This descriptive, cross-sectional study was conducted at a Turkish foundation university using a campus-wide, voluntary online questionnaire disseminated via institutional e-mail lists and the student–staff portal. Data collection was scheduled within a defined fieldwork window and each participant completed the survey once.

Study Time Interval

Data were collected between November 2024 and May 2025; data cleaning and analysis followed immediately thereafter.

Research Type

Questionnaire-based cross-sectional descriptive study.

Population and Sampling

The target population comprised all currently enrolled undergraduate students and employed academic/administrative staff. A convenience sampling approach was used (open invitation to the whole campus). Of 393

submissions, 23 were excluded a priori due to missing core items or logical inconsistencies, yielding a final analytic sample of 370 (students n=203; staff n=167).

Sample Size Justification

For two independent groups (students vs staff), a sensitivity-based rationale indicated that with α=.05 (two-sided) and total N≈300, the study would have ≈80% power to detect a ≥12 percentage-point difference in prevalence (e.g., 25% vs 13%) using a chi-square test of proportions. The achieved N=370 exceeds this threshold and improves precision for subgroup estimates.

Inclusion and Exclusion Criteria

Inclusion

Age ≥18 years; current student or staff; Turkish literacy; provision of electronic informed consent; completion of core items (use status, age of initiation, frequency).

Exclusion

Duplicate entries; incomplete core variables; responses failing age/grade logic checks.

Questionnaire: Structure, Validity,Rreliability

A researcher-developed sociodemographic and substance-use questionnaire was constructed from prior literature and national surveillance templates. Sections covered: demographics; cigarette, e-cigarette, and alcohol status and frequency; age of initiation; quit attempts/cessation support; and use motives (dependence/routine use, coping with negative affect, positive reinforcement/enhancement, social reasons). Content and face validity were established via review by three domain experts (public health, addiction); wording and skip-logic were refined accordingly. Because motive options were single/multiple-choice indicators rather than multi-item scales, internal consistency was not calculated; test–retest reliability was not assessed due to single cross-sectional administration.

Definitions and Operational Measures

- Current smoking: any self-reported cigarette use (daily/occasional/social) vs former/never.
- E-cigarette use: regular/occasional/former/never.
- Alcohol use: frequency categories from "daily" to "never."
- Composite use score (0–2): 0=neither cigarette nor alcohol; 1=either one; 2=both. This indicator is a coarse concurrent-use marker intended for cross-sectional comparisons; it does not represent quantity or frequency of use, severity, or a validated diagnostic scale. The limitations of this coding are acknowledged in the Discussion.

Data Collection and Consent

The survey was hosted on a secure institutional platform. The landing page described study purpose, anonymity, voluntariness, data use, and contacts. Participation required ticking an electronic informed-consent checkbox. Range checks and required fields minimised missingness; potential duplicate submissions were screened and excluded.

Statistical Analysis

Analyses were performed in IBM SPSS 27.0. We report descriptive statistics; between-group comparisons used chi-square tests (categorical) and Mann–Whitney U or Kruskal–Wallis tests (ordinal/continuous, non-normal). Age of initiation was compared between students and staff using U-tests. Associations between the composite use score (0–2) and sex/group were examined via chi-square. Two-sided $p<0.05$ was considered statistically significant. Given expected very low counts for e-cigarettes, analyses for that subgroup were restricted to descriptive summaries without inferential testing.

Ethical Approval and Administrative Permission

The study was approved by the Lokman Hekim University Scientific Research Ethics Committee (Decision No: 2024/254; Project Code: 2024250) and conducted in accordance with the Helsinki Declaration. Administrative permission was obtained where required; electronic informed consent was obtained from all participants before data collection.

Results

In this section, we present a comparative analysis of alcohol and tobacco use patterns among university students and staff. Differences in prevalence, age of initiation, usage frequency, and underlying motivations were systematically examined between the two groups. The detailed findings are reported below.

The study included 370 individuals: 230 students and 167 staff. Table 1 summarizes the details of the study. Of the participants, 54.9% were students (n=203) and 45.1% were staff (n=167). 52.4% of the participants were male (n=194) and 47.6% were female (n=176). In terms of marital status, 72.7% of the participants were single (n=269) and 27.3% were married (n=101).

Table 1. Demographic and smoking-alcohol use characteristics of participants

	n	%
Group		
Student	203	54.9
Staff	167	45.1
Gender		
Male	194	52.4
Female	176	47.6
Marital status		
Single	269	72.7
Married	101	27.3
Smoking		
Yes	81	21.9
No	289	78.1
Smoking frequency		
Regularly	61	16.5
Sometimes	13	3.5
Only in social settings	7	1.9
Quit	62	16.8
Never used	227	61.4
E-cigarette		
Regularly	4	1.1
Sometimes	31	8.4
Quit	13	3.5
Never used	322	87.0
Alcohol		
Yes	54	14.6
No	316	85.4
Alcohol frequency		
Every day	3	0.8
A few times a week	8	2.2
Once a week	18	4.9
A few times a month	6	2.2
Once a month	19	5.1
Never used	316	85.4
Total	370	100.0

n: Number.

In terms of smoking, 21.9% of the participants stated that they smoked (n=81), while 78.1% stated that they did not smoke (n=289). In terms of smoking frequency, 16.5% were regular smokers (n=61), 3.5% were occasional smokers (n=13), 1.9% smoked only in social settings (n=7), 16.8% had quit (n=62) and 61.4% had never smoked (n=227).

In terms of electronic cigarette use, 1.1% of the participants were regular smokers (n=4), 8.4% were occasional smokers (n=31), 3.5% had quit (n=13) and 87% had never used electronic cigarettes (n=322). Given the very low number of regular e-cigarette users (n=4), we report descriptive summaries only and do not draw inferential or generalisable conclusions for this subgroup.

In terms of alcohol use, 14.6% of the participants stated that they used alcohol (n=54) and 85.4% stated that they did not use alcohol (n=316). Regarding the frequency of alcohol use, 0.8% reported drinking alcohol every day (n=3), 2.2% a few times a week (n=8), 4.9% once a week (n=18), 2.2% a few times a month (n=6), 5.1% once a month (n=19) and 85.4% never drank alcohol (n=316).

In Table 2, the Mann-Whitney U test indicated that staff members (Mean Rank=84.23) started smoking significantly later than students (Mean Rank=69.61), U=2261.5, Z=-2.07, p=0.039.

Similarly, the age of onset for alcohol use was significantly higher in staff (Mean Rank=45.31) compared to students (Mean Rank=19.08), U=3.0, Z=-5.75, p<0.001.

Participants reported various reasons for smoking and drinking alcohol. As shown in Table 3, both students and staff most frequently cited dependence-related or routine use as a reason for smoking (60.81% and 60.32%, respectively), followed by tension reduction/relaxation (56.76% for students, 31.75% for staff). While students more often reported positive reinforcement/enhancement to smoke (43.24%) compared to staff (26.98%), stimulation was endorsed at similar rates (20.27% for students, 22.22% for staff). Social smoking was a relatively rare reason in both groups, particularly among staff (1.59%). A notable difference emerged in the addictive smoking category, with 25.68% of students and only 7.94% of staff indicating this reason.

Table 2. Mann–Whitney U Test Results for Age of onset of cigarette and alcohol use by group (a foundation university in Ankara, 2024)

	Student			Staff			U	p
	n	M	SD	n	M	SD		
Age of cigarette use onset	85	16.33	2.30	66	17.23	2.88	2261.5	0.039
Age of alcohol use onset	37	16.57	1.71	16	22.44	1.63	3.0	<0.001

n: Number; M: Mean; SD: Standard deviation; U: Mann–Whitney U.

Table 3. Distribution of reasons for smoking by groups (a foundation university in Ankara, 2024)

Reasons for smoking	Student (n=74)*		Staff (n=61)**		Total (n=137)	
	n	%	n	%	n	%
Habit	45	60.81	38	60.32	83	60.58
Tension reduction/relaxation	42	56.76	20	31.75	62	45.26
Pleasure to smoke	32	43.24	17	26.98	49	35.77
Social smoking	5	6.76	1	1.59	6	4.38
Addictive smoking	19	25.68	5	7.94	24	17.52
Stimulation	15	20.27	14	22.22	29	21.17

n: Number; %: Percent. *: Five participants did not specify a reason; **: One staff participant did not specify a reason.

Table 4. Distribution of reasons for drinking alcohol by groups (a foundation university in Ankara, 2024)

Reasons for drinking alcohol	Student (n=38)		Staff (n=16)		Total (n=54)	
	n	%	n	%	n	%
Tension reduction/relaxation	29	76.32	3	18.75	32	66.67
Pleasure	20	52.63	9	56.25	29	60.42
Social causes	12	31.58	7	43.75	19	39.58
Habit	3	7.89	–	–	3	6.25

n: Number; %: Percent.

Table 5. Group differences in composite co-use scores by gender and group (a foundation university in Ankara, 2024)

	None		Cigarette or alcohol		Both		$\chi^2(2)$	p
	n	%	n	%	n	%		
Gender							26.67	<0.001
Male	111	57.2	67	34.5	16	8.2		
Female	144	81.8	28	15.9	4	2.3		
Group							11.52	0.003
Student	126	62.1	61	30.0	16	7.9		
Staff	129	77.2	34	20.4	4	2.4		

n: Number; χ^2: Chi-square.

Regarding reasons for drinking alcohol, tension reduction/relaxation was the most frequently reported motive overall (66.67%), especially among students (76.32%) compared to staff (18.75%). Positive reinforcement was also commonly cited, with similar rates across groups (52.63% of students and 56.25% of staff). Social causes were more prominent among staff (43.75%) than students (31.58%). Only students reported dependence-related or routine use as a reason for drinking (7.89%) (Table 4).

A series of chi-square tests was conducted to examine the relationship between composite co-use score (0=none, 1=cigarette or alcohol, 2=both) and participants' gender and group (student vs. staff) (Table 5).

There was a significant association between gender and composite co-use score, $\chi^2(2)=26.67$, $p<0.001$. Males were more likely to report using either one or both substances (34.5% and 8.2%, respectively) compared to females (15.9% and 2.3%), while females were more likely to report no use (81.8%) compared to males (57.2%).

Similarly, the association between group and composite co-use score was also statistically significant, $\chi^2(2)=11.52$, $p=.003$. Students were more likely to report using cigarettes or alcohol (30.0%) or both (7.9%) compared to staff (20.4% and 2.4%, respectively), whereas staff members were more likely to report no use (77.2%) compared to students (62.1%).

To evaluate age differences across composite co-use scores, a Kruskal–Wallis H test was conducted. Although the mean ranks showed a decreasing trend in age with increasing composite co-use score (193.04 for none, 171.40 for one, and 156.38 for both), the difference was not statistically significant, $H(2)=4.42$, $p=0.110$ (Table 6).

Table 6. Group differences in composite co-use scores by age (a foundation university in Ankara, 2024)

Composite co-use score	N	Mean rank	H(2)	p
None	255	193.04		
Cigarette or alcohol	95	171.40	4.42	0.110
Both	20	156.38		

N: Sample size; H: Kruskal–Wallis statistic.

Discussion

Recent literature indicates a notable increase in the use of addictive substances such as tobacco and alcohol among university students.[13,14] International studies emphasize that this rise is more closely associated with environmental factors—particularly peer pressure, social influence, and university culture—rather than individual characteristics.[5] Moreover, substance use rates among university students have been reported to be significantly higher compared to the general population.[15]

In this context, our study found that university students exhibited significantly higher rates of both cigarette and alcohol use compared to university staff, aligning with existing findings. The autonomy afforded by university life, the flexibility of social norms, and the lack of supervision may serve as potential risk factors leading students toward substance use. This suggests that substance use may be influenced not only by individual choices but also by the structural and cultural dynamics of the university environment.

The literature underscores that smoking should not be evaluated solely in terms of physical dependence but also as a psychological coping mechanism.[16,17] Reed et al.[16] conducted a study indicating that alcohol and cigarette use among university students often co-occur, supporting the notion that substance use functions as a means of coping with stress. Similarly, Morrell et al.[17] found that smoking is more prevalent among individuals with a predisposition to depression, and this relationship is strengthened by expectations of negative reinforcement.

In our study, the most commonly reported reason for smoking was "to reduce stress and anxiety," which aligns with these findings. This indicates that young individuals may use cigarettes not only to satisfy nicotine cravings but also as a means of coping with psychological challenges. Therefore, intervention strategies should be designed to address not only dependence but also to provide emotional regulation support.

Regarding alcohol use, the literature reveals similar psychosocial themes.[18,19] Norberg et al.[18] found that students' motivations for alcohol consumption included socialization, stress reduction, and relaxation. LaBrie et al.[19] demonstrated that alcohol use may serve to facilitate social interactions and cope with negative emotions.

In our study, the most frequently cited reasons for alcohol consumption were "to reduce anxiety" and "to relax." This finding suggests that alcohol is perceived not only as a source of Positive reinforcement but also as a coping strategy. Targeting individuals experiencing high anxiety and low social support may be crucial for developing effective preventive interventions. Framed as student wellbeing, coping-motivated drinking points to the need for integrated counselling responses. International studies link coping/negative-affect motives with higher-risk alcohol use among university students.[18,19] Accordingly, campus counselling and wellbeing services should implement routine alcohol screening and brief counselling with referral pathways to higher-intensity care when indicated.[3] Social norms–based programmes can be paired with counselling services to reduce misuse in university settings.[20]

The literature indicates that the co-use of alcohol and tobacco is reinforced not only pharmacologically but also behaviorally and socially.[20,21] Piasecki et al.[20] reported that the interaction between alcohol and nicotine on the dopaminergic system increases the risk of dependence. Additionally, Lipperman-Kreda et al.[21] found that young adults often consume alcohol and tobacco simultaneously in social settings, such as gatherings and parties.

In our study, a significant proportion of participants who smoked also consumed alcohol. This pattern of co-use suggests that substance use may become entrenched not only at the level of dependence but also within social contexts. Concepts such as social drinking and social smoking indicate that these substances may be perceived as tools for social interaction among students.

Gender differences in alcohol and tobacco use have been extensively studied across various regions and samples.[22–24] Sánchez-Puertas et al.[22] reported higher rates of problematic alcohol use among male university students in Ecuador compared to females. Similarly, Johar et al.[24] found that, in Europe, men exhibited higher levels of alcohol consumption than women, although women also engaged in significant alcohol use influenced by psychosocial factors. Regarding tobacco use, Hamadeh et al.[23] observed higher rates of waterpipe smoking among male university students in four Eastern Mediterranean countries compared to females.

Our study also found that male participants had higher rates of both alcohol and cigarette use compared to female participants. However, the notable prevalence among females suggests a potential shift in societal norms

and changing attitudes toward substance use among women. This underscores the need for gender-sensitive prevention strategies.

The literature frequently highlights a decreasing age of initiation for alcohol and tobacco use.[25,26] Xing et al.[25] reported a decline in the age of smoking initiation across many regions, with early use becoming more common among youth. Similarly, Gardner et al.[26] found that the age of alcohol initiation in Australia has shifted to earlier periods, with individuals who began drinking before age 15 exhibiting higher rates of risky drinking behaviors later in life. Liu et al.[27] demonstrated that exposure to substance use content on social media can normalize these behaviors and reduce perceptual sensitivity among youth.

In our study, students reported significantly earlier initiation ages for both smoking and alcohol consumption compared to staff members. This difference may reflect not only developmental factors but also intergenerational cultural changes and media influences. Indirect promotion of substances on social media and youth-targeted marketing strategies may reinforce this trend.

Research on smoking cessation behaviors indicates that individuals often attempt to quit smoking without professional assistance According to the Centers for Disease Control and Prevention (CDC, 2022), approximately 70% of global smoking cessation attempts are made through individual efforts, but most of these attempts are not sustainable.[28] Hartmann-Boyce et al.[29] conducted a systematic review showing that structured cessation programs have higher success rates.

In our study, the majority of participants who reported quitting smoking did so through personal efforts, suggesting limited access to smoking cessation services. This highlights the need to enhance the visibility and availability of counseling, digital support systems, and smoking cessation centers within universities. Consistent with WHO's MPOWER framework—specifically the "O" component, Offer help to quit—these findings support embedding accessible cessation support within university health and counselling services (e.g., proactive brief advice, on-site or tele-counselling, and clear referral pathways to pharmacotherapy).

Finally, university campuses are considered strategic environments for implementing interventions aimed at preventing substance use among young adults.[2,30] The World Health Organization,[2] emphasizes the importance of tobacco- and nicotine-free educational institutions and highlights the critical role of these settings in strengthening protective factors. At the national level, these recommendations are consistent with Türkiye's tobacco control framework. Law No. 4207 mandates 100% smoke-free indoor areas across educational institutions (amended 2008–2009), with enforcement mechanisms in place.[10] In university settings, this translates into extending smoke-free rules to key outdoor campus areas, embedding easily accessible cessation pathways, and routinely monitoring compliance. Perkins and Craig[30] demonstrated that social norms-based interventions on university campuses effectively reduce alcohol and tobacco use.

In interpreting e-cigarette findings, the very low prevalence in our sample (regular users n=4) precludes robust between-group comparisons; results are descriptive only and should not be generalised.

This study was conducted at a single Turkish foundation university; therefore, findings may not be generalised to other institutions or regions. Data were obtained via self-report in a cross-sectional design, introducing potential recall and social desirability bias and precluding causal inference. In addition, the composite co-use score (0–2) was constructed for descriptive comparisons and is not a validated diagnostic scale; it does not capture quantity or frequency of use, so related associations should be interpreted cautiously.

Conclusion

Our study's findings indicate a need for multi-level prevention strategies within university environments that address both individual behaviors and environmental factors. Considering substance use behaviors in the context of social environment, generational differences, and structural factors may enhance the effectiveness of interventions. We recommend implementing tobacco- and nicotine-free campus policies, embedding accessible cessation services within university counselling/health units, and launching peer-support interventions targeting stress-related motives, with routine monitoring of compliance and service uptake.

Ethics Committee Approval: The Lokman Hekim University Scientific Research Ethics Committee granted approval for this study (date: 31.10.2024, number: 2024/254).

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References

1. Li Y, Raftery AE. Estimating and forecasting the smoking-attributable mortality fraction for both genders jointly in over 60 countries. Ann Appl Stat 2020;14(1):381- 408. [CrossRef]
2. World Health Organization. Freedom from nicotine and tobacco: guide for schools. Available at: https://www.who.int/publications/i/item/9789240080553. Accessed February 5, 2026.
3. World Health Organization. Global status report on alcohol and health and treatment of substance use disorders. Available at: https://www.who.int/publications/i/item/9789240096745. Accessed February 5, 2026
4. Davoren MP, Demant J, Shiely F, Perry IJ. Alcohol consumption among university students in Ireland and the United Kingdom from 2002 to 2014: a systematic review. BMC Public Health 2016;16:173. [CrossRef]
5. Arnett JJ. The developmental context of substance use in emerging adulthood. J Drug Issues 2005;35(2):235-54. [CrossRef]
6. El Ansari W, Salam A. Multi-substance use behaviors: Prevalence and correlates of alcohol, tobacco and other drug (ATOD) use among university students in Finland. Int J Environ Res Public Health 2021;18(12):6426. [CrossRef]
7. Delgado-Lobete L, Montes-Montes R, Vila-Paz A, Cruz-Valiño JM, Gándara-Gafo B, Talavera-Valverde MA, et al. Individual and environmental factors associated with tobacco smoking, alcohol abuse and illegal drug consumption in university students: a mediating analysis. Int J Environ Res Public Health 2020;17(9):3019. [CrossRef]
8. T.C. Sağlık Bakanlığı. Türkiye hanehalkı sağlık araştırması "bulaşıcı olmayan hastalıkların risk faktörleri prevalansı" 2017-2023 çalışmalarının karşılaştırılması. Ankara: MoH; 2023. [In Turkish]
9. Turkish Statistical Institute. Türkiye Health Survey 2022. Available at: https://data.tuik.gov.tr/Bulten/Index?p=Turkiye-Health-Survey-2022-49747&dil=2. Accessed February 5, 2026.
10. T.C. İçişleri Bakanlığı Emniyet Genel Müdürlüğü Narkotik Suçlarla Mücadele Daire Başkanlığı. Türkiye'de genel nüfusta tütün, alkol ve madde kullanimina yönelik tutum ve davranış araştirmasi. Ankara; 2018. Available at: https://www.narkotik.pol.tr/kurumlar/narkotik.pol.tr/Duyurular/T%C3%9CRK%C4%B0YE%E2%80%99DE%20GENEL%20N%C3%9CFUSTA%20T%C3%9CT%C3%9CN%20ALKOL%20VE%20MADDE%20KULLANIMINA%20Y%C3%96NEL%C4%B0K%20TUTUM%20VE%20DAVRANI%C5%9E%20ARA%C5%9ETIRMASI.pdf. Accessed February 5, 2026.
11. Barcın Güzeldere HK, Öztürk Özkan G, Dincer B. How much do they know? Determination of knowledge about harmful effects of smoking and alcohol use in university students and the predictors of substance use: a cross-sectional study. Addicta 2024;11(3):296-306. [CrossRef]
12. Erbay E, Oğuz N, Yıldırım B, Fırat E. Coping attitudes of individuals with alcohol and substance dependency. Turk J Soc Res 2016;20(3):597-609. [in Turkish]
13. Karadoğan D, Önal Ö, Kanbay Y. Prevalence and determinants of smoking status among university students: Artvin Çoruh University sample. PLoS One 2018;13(12):e0200671. [CrossRef]
14. Johnston LD, Miech RA, O'Malley PM, Bachman JG, Schulenberg JE, Patrick ME. Monitoring the Future National Survey Results on Drug Use, 1975-2020: Overview, Key Findings on Adolescent Drug Use. Ann Arbor: Institute for Social Research, University of Michigan; 2021. Available at: https://monitoringthefuture.org/wp-content/uploads/2022/08/mtf-overview2020.pdf. Accessed February 5, 2026. [CrossRef]
15. Lipari RN, Jean-Francois B. A Day in the Life of College Students Aged 18 to 22: Substance Use Facts. 2016 May 26. In: The CBHSQ Report. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2013-.
16. Reed MB, Wang R, Shillington AM, Clapp JD, Lange JE. The relationship between alcohol use and cigarette smoking in a sample of undergraduate college students. Addict Behav 2007;32(3):449-64. [CrossRef]
17. Morrell HE, Cohen LM, McChargue DE. Depression vulnerability predicts cigarette smoking among college students: gender and negative reinforcement expectancies as contributing factors. Addict Behav 2010;35(6):607-11. [CrossRef]
18. Norberg MM, Norton AR, Olivier J, Zvolensky MJ. Social anxiety, reasons for drinking, and college students. Behav Ther 2010;41(4):555-66. [CrossRef]
19. LaBrie JW, Hummer JF, Pedersen ER. Reasons for drinking in the college student context: the differential role and risk of the social motivator. J Stud Alcohol Drugs 2007;68(3):393-8. [CrossRef]
20. Piasecki TM, Jahng S, Wood PK, Robertson BM, Epler AJ, Cronk NJ, et al. The subjective effects of alcohol-tobacco co-use: an ecological momentary assessment investigation. J Abnorm Psychol 2011;120(3):557-71. [CrossRef]
21. Lipperman-Kreda S, Paschall MJ, Robert FS, Morrison CN. Places and social contexts associated with simultaneous use of alcohol, tobacco and marijuana among young adults. Drug

Alcohol Rev 2018;37(2):188-95. [CrossRef]
22. Sánchez-Puertas R, Ruisoto P, López-Núñez C, Vaca-Gallegos S. Gender differences in transdiagnostic predictors of problematic alcohol consumption in a large sample of college students in Ecuador. Front Psychol 2022;13:784896. [CrossRef]
23. Hamadeh RR, Lee J, Abu-Rmeileh NM, Darawad M, Mostafa A, Kheirallah KA, et al. Gender differences in waterpipe tobacco smoking among university students in four Eastern Mediterranean countries. Tob Induc Dis 2020;18:100. [CrossRef]
24. Johar H, Atasoy S, Beutel M, Brähler E, Schomerus G, Binder H, et al. Gender-differential association between loneliness and alcohol consumption: a pooled analysis of 17,808 individuals in the multi-cohort GESA consortium. Int J Ment Health Addict 2025;23(1):1-23. [CrossRef]
25. Xing S, Zhao M, Magnussen CG, Xi B. Proportion and trend in the age of cigarette smoking initiation among adolescent smoking experiencers aged 13-15 years in 148 countries/territories. Front Public Health. 2022;10:1054842. [CrossRef]
26. Gardner LA, Stockings E, Champion KE, Mather M, Newton NC. Alcohol initiation before age 15 predicts earlier hazardous drinking: a survival analysis of a 7-year prospective longitudinal cohort of Australian adolescents. Addiction 2024;119(3):518-29. [CrossRef]
27. Liu J, Charmaraman L, Bickham D. Association between social media use and substance use among middle and high school-aged youth. Subst Use Misuse 2024;59(7):1039-46. [CrossRef]
28. VanFrank B, Malarcher A, Cornelius ME, Schecter A, Jamal A, Tynan M. Adult Smoking Cessation - United States, 2022. MMWR Morb Mortal Wkly Rep 2024;73(29):633-41. [CrossRef]
29. Hartmann-Boyce J, Livingstone-Banks J, Ordóñez-Mena JM, Fanshawe TR, Lindson N, Freeman SC, et al. Behavioural interventions for smoking cessation: an overview and network meta-analysis. Cochrane Database Syst Rev 2021;1(1):CD013229. [CrossRef]
30. Perkins HW, Craig DW. A successful social norms campaign to reduce alcohol misuse among college student-athletes. J Stud Alcohol 2006;67(6):880-9. [CrossRef]