

Anxiety and Smoking and Drinking Behaviors among Adolescents

Min-Hee Park

ABSTRACT

This study aimed to investigate the anxiety and smoking and drinking behaviors of adolescents in one region of South Korea. This was a secondary data analysis study using data from a survey on youth smoking and drinking. This study found that the distribution of mild, moderate, and severe anxiety levels was higher among smokers than among nonsmokers ($\chi^2 = 15.343$, $p < 0.001$). In addition, the distribution of mild, moderate, and severe anxiety levels was higher among drinkers than among nondrinkers ($\chi^2 = 195.305$, $p < 0.001$). It is necessary to prevent mental disorders related to anxiety symptoms through smoking and drinking prevention programs for adolescents in a community.

Keywords: Adolescent, anxiety, smoking, drinking

INTRODUCTION

Adolescence is a stage of transition into adulthood in which complex physical and mental changes occur. Along with secondary sexual characteristics, rapid physical growth occurs, and changes in the brain that lead to abstract and logical thinking are experienced [1]. This is the stage at which self-identity develops while experiencing complex and rapid emotional fluctuations [1–2]. Adolescents at this age are more likely to experience emotional instability, and they often choose behaviors such as drinking and smoking to overcome it [3]. In addition, smoking and drinking can be considered gateways to problematic behaviors in adolescence [4], and if there is no uniform appearance of striving for a career, adolescents may experience anxiety as their identity becomes unclear [5]. By examining the differences in anxiety states related to smoking and drinking behaviors in adolescents, active intervention is required to control smoking and drinking and reduce anxiety so that the future can be designed in a state of psychological stability.

This attempted to provide basic data for the establishment of youth health promotion policies in a local city with the following specific objectives:

1. To investigate anxiety and smoking and drinking behaviors of participants
2. To investigate the distribution of anxiety states according to smoking and drinking behaviors of participants

METHODS

Study Design

This descriptive study aimed to identify the relationship between anxiety and smoking and drinking behaviors among adolescents in one region of South Korea.

Participants and Data

This data used public data from the 2020 Drinking Survey Study [6] conducted on adolescents in City A. A total of 26,844 students from 12 elementary, 171 middle, and 144 general high schools participated in this study. A self-reported online survey was conducted with subjects who participated voluntarily.

Study Instruments

The anxiety state measurement consisted of seven items and a 4-point scale (0 to 3 points) (0 = no disturbance; 1 = interrupted for several days; 2 = interrupted for two to seven days; and 3 = interrupted almost every day). The interpretation of the anxiety state was evaluated as 0–4 points for normal, 5–9 points for mild, 10–14 points for moderate, and 15–21 for severe levels. The questions about anxiety were as follows: In the past two weeks, how often have you been disturbed by the following problems?: (1) feeling agitated, anxious, or jittery; (2) inability to stop or control worrying; (3) worrying too much about various things; (4) it is difficult to be comfortable; (5) I am so restless that it is difficult for me to remain still; (6) easily irritable; and (7) feeling afraid, as if something terrible is about to happen.

RESULT**Anxiety State and Smoking and Drinking Behaviors**

The distribution of anxiety states were 79.5% normal among nonsmokers and 65.0% normal among current smokers. The distribution of anxiety states were 79.8% normal among nondrinkers and 66.3% normal among current drinkers (Table 1).

Differences in the Distribution of Anxiety States According to Smoking and Drinking Behaviors

There was no statistically significant difference in the distribution of anxiety states between nonsmokers and current smokers ($\chi^2 = 15.343$, $p < 0.001$). However, there was a statistically significant difference in the distribution of anxiety states between nondrinkers and current drinkers ($\chi^2 = 195.305$, $p < 0.001$) (Table 1).

Table 1. Anxiety and smoking and drinking behaviors

(N=26,844)

Variables		Level of anxiety N(%)					χ^2	<i>p</i>
		Total	normal	mild	moderate	severe		
Smoking	No smoking	26,062 (100)	20,730 (79.5)	3,644 (14.0)	1,113 (4.3)	575 (2.2)	15.343	<0.001
	Currently smoking	782 (100)	508 (65.0)	145 (18.5)	62 (7.9)	67 (8.6)		
Drinking	No drinking	25,438 (100)	20,306 (79.8)	3,506 (13.8)	1,074 (4.2)	552 (2.2)	195.305	<0.001
	Currently drinking	1,406 (100)	932 (66.3)	283 (20.1)	101 (7.2)	90 (6.4)		

DISCUSSION

The results of this study showed that smokers had higher levels of anxiety in the mild, moderate, and severe levels than nonsmokers. In addition, drinkers had higher levels of mild, moderate, and severe anxiety than nondrinkers. These results are similar to the results suggesting that adolescents who smoke and drink have higher anxiety symptoms and experience panic disorder and anhedonia [7]. This is also similar to the finding that nicotine-dependent adolescents were correlated with greater anxiety symptoms [8], which is similar to the result that adolescents' use of tobacco, alcohol, and marijuana leads to an increase in generalized anxiety disorders [9].

Through education and practice to prevent smoking and drinking in adolescence, mental disorders such as anxiety, panic disorder, and generalized anxiety disorders can be prevented. Based on the results of this study, it is necessary to plan and implement smoking and drinking prevention programs in schools.

References

1. Yoo C, Kim, K. The mediating effect of rumination and worry in the relationship between depression, anxiety and drinking motivations, and smoking motivations among high school students. *Studies on Korean Youth*. 2014;25(2):47-77. doi: 10.14816/sky.2014.05.73.47.
2. Zvolensky MJ, Farris SG, Leventhal AM, Schmidt NB. Anxiety sensitivity mediates relations between emotional disorders and smoking. *Psychol Addict Behav*. 2014;28(3):912-920. doi: 10.1037/a0037450.
3. Savage JE, Kaprio J, Korhonen T, Pulkkinen L, Rose RJ, Verhulst B, Dick DM. The effects of social anxiety on alcohol and cigarette use across adolescence: Results from a longitudinal twin study in Finland. *Psychol Addict Behav*. 2016;30(4):462-74. doi: 10.1037/adb0000183.
4. Abreu-Villaça Y, Cavina CC, Ribeiro-Carvalho A, Correa-Santos M, Naiff VF, Filgueiras CC, Manhães AC. Combined exposure to tobacco smoke and ethanol during adolescence leads to short- and long-term modulation of anxiety-like behavior. *Drug Alcohol Depend*. 2013;133(1):52-60. doi: 10.1016/j.drugalcdep.2013.05.033.
5. Gage SH, Hickman M, Heron J, Munafò MR, Lewis G, Macleod J, Zammit S. Associations of cannabis and cigarette use with depression and anxiety at age 18: findings from the Avon Longitudinal Study of Parents and Children. *PLoS One*. 2015;10(4):e0122896. doi: 10.1371/journal.pone.0122896.
6. Busan Metropolitan Office of Education (2020). Current status of students smoking and drinking in Busan in 2020, Busan Metropolitan Office of Education. Retrieved from [http : //www.pen.go.kr/](http://www.pen.go.kr/)
7. Chuang CW, Chan C, Leventhal AM. Adolescent Emotional Pathology and Lifetime History of Alcohol or Drug Use With and Without Comorbid Tobacco Use. *J Dual Diagn*. 2016;12(1):27-35. doi: 10.1080/15504263.2016.1146557.
8. Bierhoff J, Haardörfer R, Windle M, Berg CJ. Psychological Risk Factors for Alcohol, Cannabis, and Various Tobacco Use among Young Adults: A Longitudinal Analysis. *Subst Use Misuse*. 2019;54(8):1365-1375. doi: 10.1080/10826084.2019.1581220.
9. Brook JS, Lee JY, Rubenstone E, Brook DW, Finch SJ. Triple comorbid trajectories of tobacco, alcohol, and marijuana use as predictors of antisocial personality disorder and generalized anxiety disorder among urban adults. *Am J Public Health*. 2014;104(8):1413-20. doi: 10.2105/AJPH.2014.301880.