

Stress Perception, Smoking and Drinking Behaviors among Adolescents

Min-Hee Park

ABSTRACT

This study aimed to examine the relationship between stress perception and smoking and drinking behaviors among adolescents in one region of South Korea. Data were collected online from elementary, middle, and high school students. This study found that smokers had higher stress perception scores than nonsmokers ($t=8.100$, $p<0.001$), and drinkers had higher stress perception scores than nonsmokers ($t=8.380$, $p<0.001$). The major factors for stress were grade or career, appearance, and conflict with parents, friends, seniors, and juniors. It is necessary to identify the differences in stress caused by smoking and drinking among adolescents in a community and understand the causes of stress so that they can manage their stress on their own.

Keywords: adolescent, stress, perception, smoking, drinking

INTRODUCTION

In addition to physical changes, adolescents are often exposed to stressful situations because of their academic achievements, career paths, friendships, and conflicts with parents. South Korea conducts education focusing on entrance exams, which reveal that few opportunities for developing coping skills in stressful situations and negative adaptation exposes adolescents to smoking and drinking [1].

Stress-initiated smoking and drinking do not provide opportunities for the development of positive stress-coping patterns, leading to repeated smoking and drinking, and increase the risk of physical and mental illness through smoking and alcohol dependence in adulthood.

Accordingly, education is required to develop positive coping styles by identifying differences in stress perception between students who smoke and drink and those who do not and by identifying stressors.

This study aims to provide basic data for establishing youth health promotion policies in a local city. The specific research objectives were as follows:

1. To investigate stress perception and smoking and drinking behaviors of the participants
2. To identify the stress factors of the participants

METHODS

Study Design

This descriptive study aimed to understand stress perception and smoking and drinking behaviors among adolescents in one region of South Korea.

Participants and Data

This study used data from the 2020 Drinking Survey Study conducted on adolescents in City A. A total of 26,844 students from 12 elementary, 171 middle, and 144 general high schools participated in an alcohol consumption survey in City A. Data collection was conducted using a self-reported online survey, and only students who voluntarily participated were surveyed.

Study Instruments

Stress perception was evaluated on a 5-point scale (1 to 5), with a higher score indicating a higher level of stress.

RESULT

Stress Perception and Smoking and Drinking Behaviors

This study found that smokers had higher stress perception scores than nonsmokers ($t=-8.100$, $p<0.001$), and drinkers had higher stress perception scores than nonsmokers ($t=8.380$, $p<0.001$) (Table 1).

Table 1. Stress perception and smoking and drinking behaviors

(N=26,844)

Variables		N(%)	Stress perception		
			Mean(SD)	t	p
Smoking	No smoking	26,062 (97.1)	3.01 (1.006)	- 8.100	0.001
	Smoking	782 (2.9)	3.30 (1.121)		
Drinking	No drinking	25,438 (94.8)	3.00 (1.005)	8.380	0.001
	Drinking	1,406 (5.2)	3.23 (1.082)		

Stress Factor

The major stress factors for nonsmokers were grades/career and appearance in that order and those for current smokers were grades/career and conflict with parents in that order.

The major stress factors for nondrinkers were grades/career and appearance in that order, and those for current drinkers were grades/career and conflict with friends in that order (Table 2).

Table 2. Stress factors and smoking and drinking behaviors

Variables	Smoking n(%)		Drinking n(%)	
	No smoking	Currently smoking	No drinking	Currently drinking
No stress	2,133 (8.2)	59 (7.5)	2,101 (8.3)	91 (6.5)
Conflict with parents	1,974 (7.6)	99 (12.7)	1,955 (7.7)	118 (8.4)
Socioeconomic status	590 (2.3)	52 (6.6)	570 (2.2)	72 (5.1)
Conflict with teacher	154 (0.6)	29 (3.7)	151 (0.6)	32 (2.3)
Conflict with friends	1,188 (4.6)	66 (8.4)	1,132 (4.5)	122 (8.7)
Academic achievement and college entrance	12,809 (49.1)	224 (28.6)	12,467 (49.0)	566 (40.3)
Health problem	441 (1.7)	8 (1.0)	424 (1.7)	25 (1.8)
Appearance and body image	1,997 (7.7)	64 (8.2)	1,956 (7.7)	105 (7.5)
Others	4,776 (18.3)	181 (23.1)	4,682 (18.4)	275 (19.6)
Total	26,062 (100.0)	782 (100.0)	25,438 (100.0)	1,406 (100.0)

DISCUSSION

In this study, smokers and drinkers had higher perceived stress scores, and the major factors for stress were academic achievement/college entrance, appearance and body image, and conflicts with parents and friends. These results are similar to the findings that higher levels of stress among adolescents are significantly associated with increased use of alcohol, tobacco, and other drugs [2, 3]. It is also similar to the finding that the onset of tobacco and alcohol abuse and dependence among adolescents is at least due to tensions at the individual, family, and environmental levels [4]. Neurobiological models may explain the process by which adolescent stressors interfere with reward circuit function, thereby increasing the risk of problematic alcohol use [5]. Moreover, smoking weakens hormonal responses to stress and prolongs subjective discomfort, which can be explained by a neurobiological model that can lead to a disruption in the body's ability to cope with stress effectively [6].

Adolescents have been found to have higher rates of smoking and drinking because of personal, family-, and school-related stressors. Active education is necessary to develop coping styles for stress and coping measures.

Reference

1. Lee WH, Cho A. The difference of smoking, drinking, stress and social support among three categories of youth. *Korean Journal of youth welfare*. 2007;9(1),17-37.
2. Debnam K, Milam AJ, Furr-Holden CD, Bradshaw C. The role of stress and spirituality in adolescent substance use. *Subst Use Misuse*. 2016;51(6):733-741. doi: 10.3109/10826084.2016.1155224.
3. Kelly AB, Chan GC, Mason WA, Williams JW. The relationship between psychological distress and adolescent polydrug use. *Psychol Addict Behav*. 2015;29(3), 787-793. doi: 10.1037/adb0000068. PMID: 26415064
4. Courtois R, Réveillère C, Paüs A, Berton L, Jouint C. Links between stress factors, mental health and initial consumption of tobacco and alcohol during pre-adolescence. *Encephale*. 2007;33(3):300-309. doi:10.1016/S0013-7006(07)92043-6.
5. Casement MD, Shaw DS, Sitnick SL, Musselman SC, Forbes EE. Life stress in adolescence predicts early adult reward-related brain function and alcohol dependence. *Soc Cogn Affect Neurosci*. 2015;10(3):416-423. doi: 10.1093/scan/nsu061.
6. Childs E, de Wit H. Hormonal, cardiovascular, and subjective responses to acute stress in smokers. *Psychopharmacology*. 2009;203(1):1-12. doi: 10.1007/s00213-008-1359-5.

7. 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/)