

# Factors Influencing Drinking among Middle-Aged People

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## Abstract

**Background:** Middle age is a period of change, and many people consume alcohol to relieve the stress associated with this transition. The present study aims to investigate factors that influence drinking among middle-aged people.

**Methods:** This is a secondary analysis of data on social problems and cohesion that the Korea Institute for Health and Social Affairs. Collecting data from 1,260 middle-aged people between 40 and 64 years of age, the study measured resilience, stress, and drinking. Descriptive statistics, t-tests, analysis of variance, Pearson's correlation, and multiple regression analysis were performed.

**Conclusion:** Multiple regression analysis that investigated factors that influenced drinking had an explanatory power of 27.4%. The analysis also revealed that the following factors had effects on drinking among middle-aged people: gender, followed by smoking, marital status, difficulties in daily life due to health problems, employment status, and past experiences of violence. It is necessary to develop and implement strategies that mitigate high-risk drinking based on the factors that our study reveals. This would serve to promote a healthy lifestyle among the middle-aged while also preventing the progression to high-risk drinking.

**Keywords:** *drinking, high-risk drinking, middle age, resilience, stress*

## Introduction

Although moderate consumption of alcohol reduces the level of tension and may make life more enjoyable, excessive drinking has negative effects on physical and mental health. These can translate to issues in family, occupational, and social

relationships<sup>1,2</sup>. From 2018 to 2019, according to the Korea Disease Control and Prevention Agency<sup>3</sup>, the monthly drinking rate (the rate at which the respondent drank at least once per month in the past year) increased by 2.2% among individuals in their twenties and thirties. However, this rate decreased by 1.7% among individuals in their forties, fifties, and sixties. In contrast, the high-risk drinking rate (the rate at which the respondent consumed 7 or more drinks per sitting for a male and 5 or more drinks per sitting for a female, for 2 or more sittings per week) decreased by 1.4% in individuals in their forties, fifties, and sixties. However, this decrease

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was smaller than that observed in individuals in their twenties and thirties (3.1%). In summary, the monthly drinking rate and high-risk drinking rate are decreasing among middle-aged people. Nevertheless, they engage in high-risk drinking behavior relatively more often than younger individuals. Therefore, it is necessary to investigate the factors related to this behavior.

People resort to consuming alcohol to relieve stress due to experiences in difficult situations<sup>4</sup>. In particular, middle-aged people experience various changes, such as the bereavement of parents, grown-up children leaving home, and new diagnoses of chronic conditions. These changes may act as stressors and may lead to drinking<sup>5</sup>. Various stressors experienced in daily life, increase alcohol consumption and may later cause problems<sup>1</sup>. Excessive drinking in middle age decreases cognitive function<sup>6</sup>, increases the risk of dementia<sup>7</sup>, and makes individuals physically weaker in older age<sup>8</sup>.

Resilience is the ability of an individual to adapt to changes in environment and respond to stressors in a physically, psychologically, and socially healthy way<sup>9</sup>. Thus, it acts as a protective factor when middle-aged people face stress<sup>10</sup>. Since resilience influences drinking caused by stress<sup>11</sup>, alcohol consumption decreases when resilience is strengthened<sup>12</sup>. This contributes to the prevention of alcohol-related issues, such as alcohol abuse<sup>13</sup>.

Since middle age is an important period of transition, coping well with these associated changes is helpful for adapting well to old age<sup>14</sup>. A review of literature revealed that resilience acts as a buffer against risky drinking behavior during

stressful situations. As resilience and stress can predict drinking, it will be meaningful to confirm the relationship between these variables. However, very few studies have confirmed the relationship between these variables in middle-aged people. In addition, it is also necessary to assess the negative life experiences of middle-aged people and to assess how these experiences and demographic variables influence their alcohol consumption. Therefore, the present study aims to find the factors that influence alcohol consumption in this population bracket and to explore ways to decrease its harmful consequences. The findings of this study will contribute to the maintenance of a healthy lifestyle in middle-aged individuals.

## **Materials and Methods**

**Design:** This study is a secondary analysis.

**Participants and data collection:** The present study used the data on social problems and cohesion that the Korea Institute for Health and Social Affairs collected in 2017. For the analysis, we extracted data previously collected from 1,260 individuals aged between 40 and 64 that consumed alcohol. The present study obtained appropriate IRB approval (2017-14).

**Measurement:** Resilience was measured using the Ego-Resilience Scale (ER89) developed by Block and Kremen<sup>15</sup>. The scale consists of 14 items rated on a 4-point scale (1 corresponding to “strongly disagree” and 4 corresponding to “strongly agree”). Higher scores indicate higher levels of resilience. Cronbach’s  $\alpha$  coefficient was 0.80 in the present study.

Stress was measured using 10 out of the 14 items on the Perceived Stress Scale (PSS) developed by Cohen et al.<sup>16</sup>. The tool assesses how the respondent perceives their level of stress in the prior month, and the items are rated on a 5-point scale (0 corresponding to “never” and 4 corresponding to “very often”). Higher scores indicate higher levels of stress. Cronbach’s  $\alpha$  coefficient was 0.85 in the present study.

Drinking was measured using the AUDIT-Consumption (AUDIT-C). Derived from the Alcohol Use Disorder Identification Test (AUDIT) developed by WHO<sup>17</sup>, AUDIT-C summarizes only the items concerning alcohol consumption<sup>18</sup> and consists of 3 items rated on a 5-point scale (0 – 4). The items assessed the following aspects: “How often do you have a drink containing alcohol? How many drinks containing alcohol do you have on a typical day when you are drinking? How often do you have six or more drinks on one occasion?” Higher scores indicate higher levels of drinking, and Cronbach’s  $\alpha$  coefficient was 0.83 in this study.

**Data analysis:** We analyzed the collected data on the IBM® SPSS® Statistics v24.0 software package. We analyzed the participants’ demographic characteristics, resilience, stress, and drinking using descriptive statistics in terms of frequency, percentage, mean, and standard deviation. We used t-tests and one-way analysis of variance to test for differences in drinking habits according to demographic characteristics and negative life experiences, with Scheffe’s post-hoc tests. We calculated Pearson’s correlation coefficients to establish the relationships among resilience, stress,

and drinking. Finally, we performed multiple regression analyses for factors that influenced alcohol consumption.

## Results and Discussion

**Differences in drinking according to demographic characteristics:** As shown in Table 1, more participants identified as male (59.4%), with a significant number of participants aged between 40 and 49 years (48.2%). 49.4% finished high school, and 84.0% were married. Non-smokers numbered 69.0%, and 86.5% had chronic disease. 91.2% lived with someone else in their household, 94.8% reported to have no suicidal thoughts. 90.8% did not have any health issues interfering with daily life, 82.1% were employed. With regard to the demographic predictors of drinking habit, participants with the following characteristics consumed more alcohol: males; educational background with high school or college degree; divorced, separated, widowed, or single marital status; smoking; one-person household; lack of difficulties in daily life due to health problems, and employment status.

These findings supported previous reports that the following groups consumed more alcohol and were more likely to progress to problematic drinking behavior: male<sup>1,2</sup>, individuals with a higher educational background<sup>2,19</sup>, individuals who were not married<sup>19</sup>, smokers<sup>1</sup>, individuals living alone than those living with other family members<sup>20</sup>, healthy individuals<sup>1,19</sup>, and employed individuals<sup>1,19</sup>.

**Table 1. Differences in alcohol consumption according to demographic characteristics (N=1,260)**

Variable	Division	n (%) or M±SD	Drinking	t/F(p)
			M ± SD	
Gender	Male	749 (59.4)	7.00 ± 2.93	19.54 ( $< 0.001$ )
	Female	511 (40.6)	3.89 ± 2.66	
Age	40-49	607 (48.2)	5.84 ± 3.18	0.93 (0.394)
	50-59	501 (39.8)	5.69 ± 3.27	
	60-64	152 (12.1)	5.47 ± 3.15	
	Mean	50.50 ± 6.73		
Education	≤ Middle schoola	166 (13.2)	5.03 ± 3.20	4.65 (0.010) (a < b, c)
	High schoolb	623 (49.4)	5.85 ± 3.17	
	≥ Collegec	471 (37.4)	5.83 ± 3.24	
Marital status	Marrieda	1,059 (84.0)	5.57 ± 3.18	9.96 ( $< 0.001$ ) (a<b,c)
	Separation, Divorce, Widowedb	126 (10.0)	6.31 ± 3.38	
	Unmarriedc	75 (6.0)	7.07 ± 2.92	
Smoking	Yes	390 (31.0)	7.56 ± 2.85	14.59 ( $< 0.001$ )
	No	870 (69.0)	4.92 ± 3.02	
Chronic disease	Yes	1,090 (86.5)	5.75 ± 3.18	0.29 (0.769)
	No	170 (13.5)	5.67 ± 3.42	
One-person households	Yes	111(8.8)	6.82 ± 3.24	3.75 ( $< 0.001$ )
	No	1,149 (91.2)	5.63 ± 3.19	
Suicidal thought	Yes	66 (5.2)	6.06 ± 3.40	0.85 (0.399)
	No	1,194 (94.8)	5.72 ± 3.20	
Difficulties in daily life due to health problems	Yesa	27 (2.1)	5.44 ± 3.09	4.70 (0.009) (b<c)
	Moderateb	89 (7.1)	4.75 ± 3.05	
	Noc	1,144 (90.8)	5.82 ± 3.21	
Employment status	Yes	1,034 (82.1)	6.12 ± 3.16	9.92 ( $< 0.001$ )
	No	226 (17.9)	4.00 ± 2.85	

**Differences in drinking according to negative life experiences:** As also seen in Table 2, the loss of loved ones, such as death, abortion, and disappearance, was the most common negative life experience (34.8%), and bullying was the least common experience (1.3%). Negative life experiences affected alcohol consumption to the

degree that participants who experienced violence or financial difficulty tended to drink more.

These findings coincide with previous reports that alcohol consumption increased with increased stress from negative life experiences, such as death of loved ones, conflicts with friends or neighbors, financial crises, and violence<sup>4,19</sup>.

**Table 2. Differences in alcohol consumption according to negative life experiences (N=1,260)**

Variable	Division	n (%)	Drinking	t (p)
			M ± SD	
Loss of loved ones (death, abortion, and disappearance)	Yes	438 (34.8)	5.83 ± 3.38	0.73 (0.464)
	No	822 (65.2)	5.69 ± 3.12	
Violence (physical, emotional, verbal, and sexual)	Yes	60 (4.8)	6.85 ± 3.61	2.46 (0.017)
	No	1,200 (95.2)	5.68 ± 3.18	
Bullying	Yes	16 (1.3)	6.63 ± 3.38	1.12 (0.265)
	No	1,244 (98.7)	5.72 ± 3.21	
Accidents (car accidents, fire)	Yes	175 (13.9)	6.17 ± 3.34	1.94 (0.053)
	No	1,085 (86.1)	5.67 ± 3.18	
Financial difficulty	Yes	275 (21.8)	6.26 ± 3.34	3.06 (0.002)
	No	985 (78.2)	5.59 ± 3.16	
Childhood abuse	Yes	24 (1.9)	6.46 ± 3.91	0.92 (0.369)
	No	1,236 (98.1)	5.72 ± 3.20	

**Levels of resilience, stress, and drinking:** As demonstrated in Table 3, the participants scored  $36.81 \pm 4.67$  points for resilience, which was higher than the median and slightly lower than that reported in a previous study<sup>21</sup> conducted on middle-aged people. They scored  $15.15 \pm 5.32$  points for stress, which was lower than the median and lower than that reported in a previous review<sup>21</sup>. In other words, the participants in the present study perceived low levels of stress. The score for drinking habit was

$5.74 \pm 3.21$  points, and this was higher than that reported in a previous study conducted on university students<sup>22</sup>. A previous study on the optimal cut-off point for AUDIT-C suggested that scores of 5 or higher indicated high-risk drinking<sup>23</sup>. Based on this, the respondents of the present study had a moderately high risk of alcohol abuse. In fact, more than half of all participants (59.0%) had scores of 5 or higher.

**Table 3. Levels of resilience, stress, and drinking (N=1,260)**

Variable	M $\pm$ SD	Range	Division	n(%)
Resilience	$36.81 \pm 4.67$	17.00-56.00		
Stress	$15.15 \pm 5.32$	0.00-31.00		
Drinking	$5.74 \pm 3.21$	1.00-12.00	$\geq 5$	743 (59.0)
			$< 5$	517 (41.0)

**Correlation between resilience, stress, and drinking:** As also seen in Table 4, although drinking had a positive correlation with resilience, the correlation was very weak. Moreover, it did not correlate with stress. This finding contradicted a previous report that alcohol consumption decreased as resilience increased<sup>12</sup> but agreed with another study that found no correlation between stress and drinking<sup>22</sup>. Resilience positively correlated with

stress, but the correlation was weak. This finding opposed a previous study finding that resilience in middle-aged people had a negative correlation with stress<sup>24</sup>. Since the significant correlations between the variables found in the present study were very weak and contradicted previous studies, the elucidation of the factors that contribute to the correlation require further research.

**Table 4. Correlation between resilience, stress, and drinking (N=1,260)**

Variable	Resilience r(p)	Stress r(p)	Drinking r(p)
Resilience	1		
Stress	0.16 (<0.001)	1	
Drinking	0.06 (0.033)	0.04 (0.155)	1

**Factors that influence drinking habits in the participants:** We coded the demographic characteristics and negative life experiences that showed significant differences as dummy variables. Along with resilience and stress, we used them as independent variables in a multiple regression analysis. The Durbin-Watson value was 1.67, confirming that there was no correlation between the residuals. Moreover, we calculated tolerance as 0.48 - 0.93, and variance inflation factor as 1.08 - 2.08, indicating no multicollinearity. As seen in Table 5, the regression equation was significant ( $F=44.17$ ,  $p<0.001$ ) explaining 27.4% of variance. We found the following factors to influence drinking habits among middle-aged people: gender ( $\beta=0.35$ ,  $p<0.001$ ), smoking ( $\beta=0.18$ ,  $p<0.001$ ), marital status ( $\beta=0.08$ ,  $p=0.015$ ), difficulties in daily life due to health problems ( $\beta=0.07$ ,  $p=0.004$ ), employment status ( $\beta=0.06$ ,  $p=0.031$ ), and violence ( $\beta=0.05$ ,  $p=0.034$ ).

The present study found that being male correlated with alcohol consumption. This can be interpreted in the context of Korean culture, which is more tolerant of drinking among men<sup>1</sup>, and this finding supports previous reports<sup>1,2</sup>. The present study also found that the score for drinking was almost 2 points higher than the cut-off in male participants. Since excessive drinking in middle-aged males can negatively influence their quality of life in old age<sup>2</sup>, appropriate interventions for drinking behavior are necessary. The finding that smokers consumed more alcohol coincided with a previous finding<sup>1</sup>. This may be so because many individuals smoke when they drink<sup>1</sup>. Marital status (divorced, separated, widowed, or single) also

tended to predict alcohol consumption. Here, a stable marriage and spousal relationship may act as a protective factor<sup>19</sup> to reduce drinking. The present study also found that lack of difficulties in daily life due to health problems influenced alcohol consumption. This corroborated with previous research that found that perceived good health was likely to result in problematic alcohol consumption<sup>1,19</sup>. This may be because individuals who perceive themselves to be healthy and those who do not experience any discomfort or difficulty in daily life may consume more alcohol<sup>1</sup>. In the present study, employment status displayed some influence over drinking habits. In this case, employed individuals may be exposed to alcohol more often in order to maintain social relationships<sup>1,19</sup>. Violent past experiences also predicted drinking, supporting a previous report, that verbal or physical abuse from a spouse reinforced drinking behavior<sup>19</sup>. In the present study, we used resilience and stress as independent variables. These did not predict drinking, corroborating previous reports that neither resilience<sup>22,25</sup> nor stress<sup>22</sup> influenced drinking among university students. Conversely, another study conducted on an adult sample found that resilience decreased drinking<sup>11</sup>. Since research is lacking on the relationship between resilience and drinking in middle-aged people, further research is necessary in this regard. Previous studies have reported that higher levels of stress correlated with higher levels of alcohol consumption<sup>4,5</sup>. However, in the present study, the relatively low level of stress in our participants (below the median) may not have influenced drinking.

**Table 5. Factors that drinking in the participants (N=1,260)**

Variable	B	SE	$\beta$	t	p
(Constant)	4.89	1.01		4.84	<0.001
Gender	2.31	0.19	0.35	11.91	<0.001
Education	0.37	0.24	0.04	1.58	0.115
Marital status	0.74	0.30	0.08	2.42	0.015
Smoking	1.22	0.20	0.18	6.28	<0.001
One-person households	0.14	0.39	0.01	0.37	0.713
Difficulties in daily life due to health problems	0.80	0.28	0.07	2.87	0.004
Employment status	0.48	0.22	0.06	2.17	0.031
Violence (physical, emotional, verbal, and sexual)	0.80	0.38	0.05	2.13	0.034
Financial difficulty	0.32	0.20	0.04	1.61	0.108
Resilience	0.02	0.02	0.03	1.23	0.218
Stress	0.01	0.02	0.01	0.33	0.742
$R^2 = 0.280$ , Adjusted $R^2 = 0.274$ , $F = 4.417$ , $p < 0.001$					

## Conclusion

This study is significant in that it identified factors that influenced drinking among middle-aged people and provided evidence to prepare programs to prevent problematic drinking behavior. The findings on these variables should be able to facilitate the development and implementation of programs to promote a healthy drinking culture and prevent drinking-associated problems in middle-aged people. Moreover, they necessitate further research to explore and strengthen protective factors to prevent the progression of moderate drinking to

problematic drinking. These measures will help to improve the quality of life among middle-aged people.

Since we conducted the present study on a subset of middle-aged individuals in South Korea, it is difficult to generalize the findings to all middle-aged people.

**Ethical Clearance:** Taken from the Institutional Review Board of Ministry of Health and Welfare (2017-14).

**Source of Funding:** This study was funded by a 2021 research Grant from Sangmyung University.

**Conflict of Interest:** The author has no relevant financial or non-financial interests to disclose.

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