

The Effects of Gender, Hospitalization Experience Due to Violence, and Loneliness on Suicidal Ideation in Korean Multicultural Adolescents

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한국 다문화 청소년의 성별, 폭력으로 인한 입원경험, 외로움이 자살생각에 미치는 영향

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Abstract This study identified the factors that influence suicidal ideation among multicultural adolescents living in Korea by examining the Youth Health Behavior Survey. This study was a cross-sectional study that analyzed secondary data using multiple regression analysis. The 17th-panel data were stratified using the data from middle and high schools across the country as of April 2020 as the sample: students from 800 middle and high schools participating anonymously in the self-reported online study, which began in 2005. This study identified being female, having experienced hospitalization due to violence, and loneliness as factors influencing suicidal ideation among 16,051 multicultural adolescents. Therefore, programs must be developed to reduce suicidal ideation and promote mental health among multicultural adolescents, and qualitative research should be conducted to quantify the phenomenological aspects of actual problems influencing multicultural adolescents.

요약 본 연구는 국내에 거주하는 다문화 청소년의 자살생각에 영향을 미치는 요인을 청소년건강행태조사를 통해 확인하였다. 본 연구는 다중회귀분석을 이용하여 2차 자료를 분석하는 단면 연구이다. 17차 패널 자료는 2020년 4월 현재 전국 중·고교 자료를 표본으로 층화한 것으로, 2005년부터 시작된 온라인 자기보고 조사에 익명으로 참여한 800개 중·고교 학생을 대상으로 했다. 본 연구에서는 16,051명의 다문화청소년의 자살생각에 영향을 미치는 요인으로 여성, 폭력으로 인한 입원경험, 외로움이 확인하였다. 다문화 청소년의 자살사고 감소 및 정신건강 증진을 위한 프로그램을 개발하고, 다문화 청소년이 겪고 있는 실제 문제의 현상학적 측면을 정량화하기 위한 질적 연구가 필요하다.

Keywords : Violence, Suicidal Ideation, Loneliness, Adolescent, Korea

1. Introduction

1.1 Necessity of research

The number of foreigners coming to Korea is increasing as the globalization of Korean culture

attracts their interest. As of the end of 2022, 2,245,912 foreigners were living in Korea, a 14.8% increase from the previous year, and 169,633 were marriage migrants, a 0.6% increase from the previous year[1]. These statistics suggest that

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the number of immigrants to Korea, and the occurrence of multicultural families, will continue to increase. A multicultural family consists of a Korean national married to an immigrant or to a person who has acquired Korean nationality by recognition or naturalization under the Nationality Act[2]. In the latest demographics of youth from multicultural families released by the Ministry of Education, 147,378 adolescents from multicultural families accounted for 2.8% of all adolescents, the highest percentage since the 2021 survey[3]. Therefore, an environment must be developed that enables multicultural adolescents to complete school and have a full adolescence. However, compared to native Korean adolescents, multicultural adolescents often have an inferiority complex in terms of race, language skills, and economic ability, and have lower career awareness and aspirations[4], possibly combined with more internet addiction, depression, suicidal thoughts, and lower self-esteem than Korean adolescents[5].

Intentional self-harm and suicide is the number one cause of death among Korean adolescents[6], and the severity of the adolescent suicide problem is difficult to describe. In particular, multicultural adolescents have greater psychological and emotional vulnerability, and more-serious mental health problems such as suicidal ideation than pure Korean adolescents[7]. Due to the increasing number of multicultural families, the various negative emotions experienced by multicultural adolescents should be identified, and institutional mechanisms and social attention should be devoted to them.

The Korea Youth Risk Behavior Survey is an anonymous, self-administered online survey for students at educational stages from the first grade of middle school to the third grade of high school. It was jointly conducted by the Korea Disease Control and Prevention Agency, and the Ministry of Education, with the purpose of quantifying the health behavior of Korean adolescents. Statistical data produced in this

youth health behavior survey are provided as important basis data for national health policies such as the national health promotion master plan and student health promotion basic plan. In addition, it serves as basic data for the health promotion of Korean adolescents.

Multicultural adolescents have been demonstrated [8] to have higher rates than Korean adolescents in various factors such as stress, suicide attempt, violence experience, drinking, sexual experience, and drug use. A recent study found that the incidence of suicidal ideation was about 1.66 times higher (21.2%) in multicultural adolescents than in Korean adolescents (12.8%)[9,10]. Gender is regarded as the most important demographic variable in the incidence of suicidal ideation, and its effect has been observed to be higher in multicultural adolescents than in Korean adolescents [11]. In addition, the presence or absence of depression (i.e., sadness, hopelessness), had been shown to have a significant effect on suicidal ideation in multicultural adolescents [12]. According to the 16th Adolescent Health Survey[13], about 14.1% of adolescents were suffering from mental health problems of loneliness, so it may contribute to promoting mental health problems in multicultural adolescents. In this study, the effect of experience of hospitalization due to violence was also investigated.

The effect of experiences of bullying and violence on suicidal ideation have been studied [14], but did not quantify the effect of the level of violence. However, the experience of being hospitalized due to violence is an obvious indicator of the degree of violence and can be regarded as a variable that can affect suicidal ideation.

This study attempts to objectively identify variables that affect suicidal ideation that were presented in the Adolescent Health Behavior Survey, and to quantify their effects. Therefore, considering various previous studies, the research goal was set to more quantify the factors that

effect suicidal ideation of multicultural adolescents. The pre-specified hypotheses are as follows. First, gender will affect suicidal ideation. Second, experience of hospitalization for violence will affect suicidal ideation. Third, loneliness will affect suicidal ideation.

2. Methods

2.1 Study design

This is a cross-sectional study that analyzed secondary data on multicultural youth in Korea. This study used data from the 17th edition of the Youth Health Behavior Survey Panel, conducted in 2021 by the Korea Disease Control and Prevention Agency and the Ministry of Education. This is government-approved statistical survey (Approved No. 117058).

2.2 Participants

The participants were 16,051 Korean multicultural adolescents who have non-Korean parent.

2.3 Data Collection

The panel data were collected to understand the health status of Korean adolescents and to help formulate policies. The 17th panel data were stratified using data from middle and high schools across the country as of April 2020 as the sample, from 800 middle and high schools participating anonymously in the self-reported online study, which began in 2005. The aim was to examine the data from 400 middle schools and 400 high schools. Therefore, five middle schools and five high schools were selected from were selected from each of 80 strata (either city or province).

The ratio of research participants to student numbers was kept the same in all strata by adjusting the number of students chosen from each school. Middle schools were categorized

into boy's, girl's, and coeducational. High schools were categorized into men's, women's, coeducational, general, and specialized. Stratified cluster sampling was used, with schools as the primary sampling unit and classes as the secondary sampling unit. For the first sampling, sample schools were selected by stratum by using permanent random-number sampling. For the secondary sampling, one class per grade was randomly selected from each of the selected sample schools. All students in these classes were surveyed, and students with long-term absences, children with special needs who could not participate in the survey on their own, and students with literacy disabilities were excluded.

2.4 Measurement Tools

The dependent variable in this study is suicidal ideation among multicultural youth. Suicidal ideation was measured as a dichotomous response to the question: "In the past 12 months, have you had serious thoughts of suicide?" with responses of 1 = no and 2 = yes.

The independent variables were gender, experience of hospitalization due to violence, and loneliness among multicultural youth. Gender was coded as 1 = boy, 2 = girl. For the experience of hospitalization due to violence, we asked, "In the last 12 months, have you ever been treated in a hospital due to violence (physical assault, threats, bullying, etc.) by a friend, senior, or adult?" on a 7-point scale with 1 = none, 2 = once, 3 = twice, 4 = three times, 5 = four times, 6 = five times, 7 = six times or more. To measure loneliness, the question "In the last 12 months, how often have you felt lonely?" was asked on a 5-point Likert scale with 1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = always.

The SPSS 26.0 program was used to conduct frequency analysis and descriptive statistics on the general characteristics and main variables of the study subjects. Second, correlation analyses

were conducted on the main variables. Third, multiple regression analyses were conducted to quantify the effects of specific individual variables on suicidal ideation among multicultural adolescents.

3. Results

3.1 Baseline characteristics of participants

The demographic characteristics of the 16,051 Korean multicultural adolescents used in the study were summarized (Table 1). Of the participant teens, 9,835 (61.3%) were male and 6,216 (38.7%) were female. Of middle-school students, 2,007 (12% of all students) were in first year; 2,569 (16%) were in second year, 2,879 (17.9%) were in third year. Of high-school students, 2,630 (16.4%) were in first year, 3,082 (19.2%) were in second year, and 2,884 (19.2%) were in third year. Their ages ranged from 12 to 18 years: 469 (2.9%) were 12, 2,166 (13.5%) were 13, 2,657 (16.6%) were 14, 2,734 (17%) were 15, 2,738 (17.1%) were 16, 3,009 (18.8%) were 17, and 2,193 (13.7%) were 18.

Table 1. The characteristics of the sample (N=16051)

Characteristics	Categories	Frequency (N)	Percentage (%)
Gender	Male	9835	61.3
	Female	6216	38.7
Grade	1st	2007	12.5
	2nd	2569	16.0
	3rd	2879	17.9
	4th	2630	16.4
	5th	3082	19.2
	6th	2884	18.0
Age	12	469	2.9
	13	2166	13.5
	14	2657	16.6
	15	2734	17.0
	16	2738	17.1
	17	3009	18.8
	18	2193	13.7

3.2 Correlation coefficients of main variables

The variables showed significant correlations (Table 2). Among subjects from multicultural families, suicidal ideation was significantly and statistically correlated with hospitalization for violence ($r = .095, p < .01$) and loneliness ($r = .348, p < .01$). Furthermore, loneliness was significantly correlated with experience of hospitalization due to violence ($r = .075, p < .01$).

Table 2. Correlations coefficients of main variables

	Suicidal Thoughts	Gender	Hospital Treatment	Loneliness
Suicidal Thoughts	-	.113**	.095**	.348**
Gender	-	-	-.088**	.155**
Hospital Treatment	-	-	-	.075**
Mean	1.13	1.39	1.14	2.47
SD	.334	.487	.345	1.097

** $p < .01$

3.3 Suicidal ideation according to general characteristics

Analysis of differences in suicidal ideation according to the subject's general characteristics detected that female had significant higher incidence of suicidal ideation than males (Table 3) ($t = -14.45, p < .001$). The effects of grade and age were not significant (Table 3).

Table 3. Suicidal ideation according to general characteristics (N=16051)

Variables	Categories	Suicidal ideation		
		M±SD	t or F	p
Gender	Male	1.10± 0.29	-14.45	.001
	Female	1.18± 0.38		
Grade	1st	1.14± 0.34	1.46	.197
	2nd	1.14± 0.34		
	3rd	1.13± 0.34		
	4th	1.12± 0.32		
	5th	1.12± 0.33		
	6th	1.13± 0.33		
Age	12	1.13± 0.34	2.07	.540
	13	1.15± 0.36		
	14	1.13± 0.34		
	15	1.12± 0.33		
	16	1.12± 0.33		
	17	1.12± 0.32		
	18	1.13± 0.33		

3.4 Multiple Regression Analysis Results

Multiple regression analysis detected that variables that affect suicidal ideation were gender, experience of hospitalization due to violence, and loneliness (Table 2). The correlations between independent variables were $r = .088 \sim .348$, but the tolerance was $0.968 \sim 0.976$, which is greater than 0.1, and the Variance Inflation Factor was $1.000 \sim 1.033$, which is less than 10, so multicollinearity was not a problem. The assumptions of normality, homoscedasticity, and linearity were met using residual analysis. The Durbin-Watson statistic was 1.999, which means that none of the error terms were significantly autocorrelated at the 0.5% level, with a d-upper between 1.73 and 2. Therefore, the assumption of independence of errors is also met. Loneliness explained 10% of the total variance in suicidal ideation, gender explained 1% and experience of hospitalization due to violence explained 2%. Being female, having been hospitalized for violence, and having higher levels of loneliness were associated with higher levels of suicidal ideation (Table 4).

Table 4. Multiple regression data

Predictors	B	β	t	P	R ² Change	F
Constant	1.02		129.09	<.001		
Female*	.08	.11	14.45	<.001	.013	208.81
Hospital Treatment	.10	.14	18.58	<.001	.021	279.20
Loneliness	.10	.33	43.99	<.001	.103	853.54

*Dummy variable: male=1, female=2

4. Discussion

As a result of this study, being female, having experience of hospitalization for violence, and loneliness influenced suicidal ideation in multicultural adolescents. These results confirmed pre-specified hypotheses. This study aims to provide a basis for program development and intervention to reduce suicidal ideation in

multicultural adolescents.

First, gender affected suicidal ideation among multicultural youth in this study; the thoughts were more common in females than in males. In general, female adolescents report more suicidal thoughts than male adolescents [15]. This result accords with a previous research result [16] that female adolescents react more sensitively than male adolescents to negative emotional situations such as stress. This gender influence on the degree of suicidal ideation according in multicultural adolescents should be confirmed, and an appropriate prevention program should be developed.

However, suicidal ideation among multicultural adolescents is a combination of different factors than native Korean adolescents, and previous research [17] suggests that boys are mainly vulnerable to status tension, whereas girls are mainly vulnerable to relational tension, so future research must quantify gender differences in suicidal ideation from a more multifaceted and complex perspective than we have done here.

Second, the results of this study confirmed that the experience of hospitalization due to violence influenced suicidal ideation among multicultural adolescents. This finding is consistent with previous research that has shown that suicidal ideation is three times higher among adolescents from multicultural families who have experienced violence than in those who had not [10]. Bullying at school also has a direct impact on suicidal ideation [18]. The main types of violence experienced by adolescents are domestic violence and school violence, and authors have suggested [19] that adolescents are more likely to develop problem behaviors if they do not have adequate emotional connection with their parents due to domestic violence, neglect, and abuse than if they do have this connection [19]. In particular, multicultural adolescents are more likely than native Korean adolescents to be physically different, and to have comparative

difficulty communicating in Korean; and these distinctions can lead to negative emotional states such as lack of self-confidence, maladjustment in school, and increased stress from biculturalism [20,21]. Therefore, multicultural adolescents may be more likely than pure Korean adolescents to be exposed to negative situations such as experiencing violence in a vulnerable emotional environment, and this exposure may lead to suicidal ideation. Psychological interventions and suicide intervention programs must be developed for them.

Finally, the study identified loneliness as a factor influencing suicidal ideation among multicultural youth. Loneliness is not simply the result of being alone, but a negative response to the absence of relationships and interaction [22]. This result is consistent with research that showed that multicultural youth are more likely to experience relational problems, such as bullying, and that these relationships are strongly associated with negative emotions, such as loneliness [23]. Another study [24] found that multicultural youth were more likely than single-cultural youth to have negative emotions such as depression. In particular, multicultural adolescents have difficulties compared to other adolescents due to their appearance, language, and poor economic status, and they experience a combination of negative situations at home and school, such as language conflicts due to cultural differences, discrimination among friends, and identity confusion [11].

Therefore, these negative situations that result from cultural differences may have been closely related to the loneliness of multicultural youth, and so various coping mechanisms must be developed to reduce the intensity of negative emotions such as loneliness, and to develop mental-health promotion programs for multicultural youth in schools.

This study identified the influential factors on suicidal ideation among 16,051 Korean multicultural adolescents. Multiculturalism has already become

a cultural trend in Korean society due to the increasing influx of immigrants every year.

To summarize, experience of hospitalization for violence and loneliness were identified as variables that affect the incidence of suicidal ideation in multicultural adolescents in Korea; other previous studies have reached similar results [10,23]. Female multicultural adolescents had significantly more suicidal ideation than male multicultural adolescents; this result is consistent with the findings of previous studies [5,15]. By identifying the factors that influence suicidal thoughts of multicultural youth, this study may contribute to development of policies to identify the emotional distress experienced by multicultural youth and to provide an environment in which they can be positively integrated into Korean society.

5. Conclusion

This paper has reported an anonymous, self-administered, online survey of middle school and high school students to understand the health behaviors of adolescents aged 12 to 18 years old. The results of this study identified gender (female), experience of hospitalization due to violence, and loneliness as factors that affect the incidence of suicidal ideation among multicultural adolescents. These findings indicate a necessity to develop programs to reduce suicidal ideation and promote mental health among multicultural adolescents, and that the necessity of quantitative research to identify the phenomenological aspects of actual problems with which multicultural adolescents are struggling.

This study presents statistical results of only the 17th Youth Health Behavior Online Survey in 2021 conducted in Korea; these results of the current year may not identify all factors that influence suicidal ideation among multicultural youth in Korea. Data from additional years

should be gathered, and a longitudinal study that follows numerous students should be conducted.

This study sampled adolescents born to parents with foreign nationalities. Therefore, the results may be biased due to such factors as the multicultural youth's period of residence in Korea and the country of birth. These observations suggest that future studies should increase the accuracy of the study by considering various potential biases. In addition, subsequent studies must consider additional demographic characteristics such as parental education level, residence period, country of origin and Korean language proficiency. Finally, this study sampled multicultural adolescents attending middle and high schools in Korea, so the results may not be generalizable to other population groups such as elementary school students.

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