

Effectiveness of an Alcohol Use Prevention Program for Low-Income Youths in Gangneung, South Korea

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Rec date: Jan 15, 2016; Acc date: Feb 04, 2016; Pub date: Feb 06, 2016

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Abstract

The study is to examine the effectiveness of an alcohol use prevention program to reduce the risk of drinking among low-income youth. In order to explore the effectiveness of alcohol use prevention program, elementary school students from low-income families were divided into intervention and comparison groups. The program was carried out with 328 elementary school students attending after-school programs at the community youth centers located in Gangneung, Gangwon Province, South Korea. After completing the program, the alcohol expectancy score ($p < 0.001$) was significantly lowered in the intervention group, while there was no significant change in the comparison group. The results showed that the moderating effects of grade group ($p = 0.04$) and self-assertiveness ($p = 0.03$) were significant on the relationship between the program and the scores of alcohol expectancy after controlling for gender, age, and self-assertiveness. Based on these findings, this study suggests for considering youths' age group and their self-assertiveness in planning and implementing alcohol use prevention programs for them.

Keywords: Alcohol prevention program; Effectiveness; Low-income youth; Korea

Introduction

The number of low-income youths is rising with increasing number of the poor families in South Korea. Previous studies reported that family income is proportionately related to the physical, emotional, and cognitive development of children, which raises concern over these children in South Korea [1,2]. There is also research reporting that underprivileged children have a higher rate of alcohol use [3], suggesting that children in low-income households are more likely to be exposed to alcohol consumption. These studies indicate that alcohol consumption among underprivileged youth is not only a personal developmental problem but a serious social concern.

Despite public concern over the increase in the number of low-income youth, however, there has not been enough effort to effectively prevent those youth from exposure to alcohol consumption. A number of studies have been performed in South Korea for the development of preventive programs and for proof of their effectiveness; but few studies have paid attention to the moderating variables that may affect the success of such programs.

There are several advantages if the roles of moderating variables in the success of a program can be identified. First, it makes it possible to plan a more desirable program that meets the needs of social service organizations, which often should achieve both effectiveness and efficiency under budgetary and human resources constraints. The moderating variables can also be used as evaluation criteria in selecting the beneficiaries of social services. In this regard, an attempt to identify the roles of moderating variables is expected to offer significant intervention implications.

Moderating variables that affect the program

With few previous studies targeted at alcohol-drinking children to explore relevant factors, it is not easy to identify moderating variables that may affect the results of an alcohol use prevention program. The moderating variables identified in the literature on alcohol use are mainly age, gender, school life, and family influence.

According to previous studies of a relationship between age and drug-related juvenile delinquency [4-8], the older the teenagers are the higher the rate of participation in antisocial behaviors. Another study showed that the impact of a preventive program on one's adaptation to school is moderated by age [9]. A study reported that the age of onset of substance use is related to the person's future use of drugs [10], arguing that the earlier one starts using drugs the likelier he/she will continue to use substances or have a problem of substance abuse into their teens and adulthood.

A number of studies [4,5,8,11-13] indicate that gender (male and female adolescents) may differ in the degree of dangerous, delinquent behaviors, with male students getting more involved in such behaviors. Yoon's study [14] found the relationship among gender, misbehavior, and adaptation to school; the study claimed that a separate program should be devised depending on the gender of the recipients to improve the efficiency of the delinquent behavior prevention program.

As for variables related to school life, a study by Bahr, Marcos and Maughan [15] indicated that children's level of adaptation to school and academic performance is negatively correlated to substance use with statistical significance. This may imply that youth with a lower level of adaptation to school and with lower academic performance are more likely to use drugs.

The next significant variable is family influence. The direct influence of parents drinking alcohol has been well established by the behavioral models of social learning theory. It is also known that parental drinking indirectly affects their children's attitudes toward alcohol [16]. Peer influence is another known major variable. Simons-Mortons et al. [17] claimed that the perception of drug use by peer groups has a significant impact on adolescent drug use. Galassi et al. [18], after carrying out a program for children and teenagers regarding self-assertiveness, stated that low self-assertiveness may impinge on problem behaviors such as aggressiveness [19].

In summary, the variables that may affect children's behaviors include age, gender, the level of adaption to school and academic performance, parental drug use, peer pressure, and self-assertiveness. While general socio-demographic data such as age and gender can be easily obtained, information on the subjects' school life and personality requires more sophisticated tools such as cooperation from school teachers or psychological tests. Information on parental substance abuse will become available only when parents are willing to cooperate in the drug prevention education of their children. Hence, this research will use the self-assertiveness variable, which can be measured using a standardized evaluation, and general socio-demographic variables including age and gender in order to see whether they have moderating effects on the preventive program and its results in terms of measurable expectations of alcohol.

Hypotheses

Hypothesis 1-1: The alcohol use prevention program will lower the positive alcohol expectancy score of the subjects.

Hypothesis 1-2: The impact of the alcohol use prevention program on expectations of alcohol will be moderated by grade group.

Hypothesis 1-3: The impact of the alcohol use prevention program on expectations of alcohol will be moderated by gender.

Hypothesis 1-4: The impact of the alcohol use prevention program on expectations of alcohol will be moderated by self-assertiveness.

Alcohol use prevention program for youth

Background of program: This program was designed on three theoretical backgrounds: ecological, social learning and expectancy theories. According to an ecological point of view, deviant behaviors in low-income children such as alcohol drinking are not pathological states that simply stem from personal traits, personality, or family history. Rather, these behaviors should be understood as behaviors expressed while they are exploring their goodness-of-fit to the environment in the midst of interacting with the environment in their development stage [20].

Theories about human relations have identified the effects of socio-environmental factors in one's use of alcohol or other types of drugs; and researchers argue that the social learning theory among others provides an appropriate conceptual framework for understanding the cause of alcohol use in children and adolescents [21,22]. Based on the social learning theory, they claim that each person shows a different level of susceptibility to social influences and those with lower self-esteem and self-confidence tend to more easily give in to social pressure and thereby to use of drugs. Therefore, an effective preventive program should be focused on teaching cognitive and behavioral skills that can effectively deal with social pressure such as peer pressure.

The expectancy theory, a memory-based cognitive social learning theory, explains that the repeated perception that a specific result is linked to a certain behavior makes the relationship between behavior and ensuing results stored in our memory in the form of an expectation. Expectancy is one of the important variables in social cognitive theory. This correlation stored in memory influences the choice of future actions and increases the chance that one will select behaviors that come with rewards [23]. If this cognitive social learning model is applied to drinking behavior, positive expectation of the effect of drinking will be a critical factor in predicting one's decision to drink. Envisioning positive results of drinking will affect one's decision to drink at a certain point in the future and his/her positive perception of drinking experience will reinforce his/her alcohol drinking behavior.

Content of the program

Purpose: The goals of the alcohol use prevention program used in this research are the following. First, it helps youth to not engage in alcohol consumption in the first place. Second, in the case of youth who are already in the habit of alcohol consumption and find it difficult to quit, it helps them to reduce the frequency and the amount consumed. Third, it nurtures youth with appropriate knowledge and attitudes in order to reduce the negative consequences that may occur from alcohol drinking.

Structure: Each session lasts a total of 50 minutes with 10 minutes for warming-up activities, 30 minutes for the program, and 10 minutes for closing. During the closing time, participants summarize what they have learned in the session and are introduced to the schedule and topic of the following session so that they can anticipate what is coming next.

Methods

Participants and data collection

Participants: The participants of this study are 328 elementary school students who were attending the after-school programs of 21 community youth centers, except one program that served teenagers, located in Gangneung city. Most of the adolescents were the beneficiaries of National Basic Livelihood Security System (NBLSS) and the potentially poor, or those referred to the community youth centers by their school teacher as underprivileged children who either receive lunch subsidies or need psychosocial protection. One of the major drawbacks of previous studies of low-income youth is that they excluded a number of needy youth by narrowly defining low-income youth as those entitled to the NBLSS and other governmental subsidies. Taking this into consideration, the present paper has subjected to analysis all participants who were using the community youth centers in an effort to avoid such exclusion.

The participants were divided into the intervention and comparison groups to assess the effects of the program. As a random assignment method was implausible in reality, a quantitative analysis based on a quasi-experimental design was planned after placing the participants of the institutions that expressed willingness to participate at an early stage in the intervention group and those whose institutions came later into the comparison group. Despite the fact that selection bias can compromise internal validity, a quasi-experimental design allows comparison of the intervention and comparison groups on the results of the intervention if the two groups are considered similar in terms of

socio-demographic variables, pre-test scores, and other important variables.

During the period when the intervention group was participating in the alcohol use prevention program, a self-concept improvement program was offered to the participants in the comparison group, concerning the ethical issues that may arise when they have to wait for two to three months even though they are experiencing the problems.

Data collection: The data were collected from a total of 328 participants in 21 centers: first in 18 centers over six months from November 2007 through April 2008 and in the remaining three centers over three months from July through September 2008.

Measurement of major variables

Dependent variables: Alcohol expectancy: Attitude toward drinking was measured using a Korean translated version [24] of the six positive expectations of reinforcement from drinking that Brown, Goldman, Inn, and Anderson [25] created, based on an analysis of the expectancies of behavioral and subjective results of drinking by individuals of diversified drinking backgrounds [26]. This questionnaire is designed to evaluate the respondent's expectations of the effects of drinking a reasonable amount of alcohol. A total of 30 yes/no questions were randomly arranged. With "yes" assigned a value of one and "no" a value of zero, respondents could get a score of up to 30 points. The higher the score, the higher expectations the respondent has of the positive effects of alcohol. With education that helps individuals have proper expectations of alcohol use, therefore, it is assumed that their scores of alcohol expectancy will go down. The Cronbach's α reliability coefficient for the scale was 0.88.

Independent variables

Alcohol use prevention program (intervention group): The alcohol use prevention program consisted of a total of seven sessions, including lectures, indirect experience, and self-assertion practice designed to raise the participants' knowledge and awareness of the harmful effects of cigarette and alcohol use.

Self-concept improvement program (comparison group): The self-concept improvement program was made by restructuring a translated version [27] of the William Glasser Institute's *The Quality School: Managing Students without Coercion* [28] to make it parallel to the seven sessions of the alcohol use prevention program for the intervention group. In order to assess the effectiveness of the self-concept improvement program, changes in the participants before and after the program were measured using the Korean version of the Children's Self-Concept Scale that Kim Byeong-ro et al. [29] developed based on Piers-Harris Children's Self-Concept Scale [30].

Moderating variables

Self-assertiveness: As for self-assertiveness, this research used a translated version [31] of the Children's Assertive Behavior Scale (CABS) made by Michelson and his colleagues [32]. This scale comprises a total of 27 questions designed to assess the respondent's general social behaviors. Each question comes with five possible responses. It uses a 5-point Likert scale with points for a very passive assertion and points for a very aggressive assertion. For the 27

questions, the possible scores that the respondents can get range between -54 and +54. The Cronbach's α reliability coefficient for the scale was 0.56 in this research.

Gender and age: Based on literature reviews, gender and age are expected to affect alcohol drinking. In order to use gender and age as moderating variables, accordingly, the subjects were separated into male and female groups and again into lower (1st-3rd grades) and upper grade (4th-6th grades) groups. In Korea, grade entry is directly based on students' year of birth, and the process of "holding back" or accelerating students in school is very rare. Thus these grade groups serve as direct proxies for age groups.

Analysis

For comparison of general characteristics between the intervention and comparison groups, a χ^2 -test was carried out when the general characteristics were nominal variables and a t-test was performed when they were continuous variables. Next, a paired t-test was performed in order to determine any differences in average alcohol expectancy of each group before and after the program. A multivariate regression analysis was conducted in an effort to control the influence of confounding variables and analyze the moderating actions of each moderating variable. Furthermore, moderating effects were analyzed by including the moderating variables into the model, which was done by multiplying the program and the gender, grade group, and self-assertiveness variables together. The following is the formula for the model:

$$\text{Post-score}_i = \text{Pre-score}_i + \text{Treatment}_i + \text{Gender}_i + \text{Grade group}_i + \text{Self-assertiveness}_i + \text{Treatment}_i \times \text{Gender}_i + \text{Treatment}_i \times \text{Age group}_i + \text{Treatment}_i \times \text{Self-assertiveness}_i + e_i$$

Results

Socio-demographic characteristics

A total of 328 participants were subjected to analysis. The characteristics of the participants are shown in Table 1. In terms of gender, there were more female students (189, 57.6%) than male students (139, 42.4%). The number of the 1st-3rd graders was 123 (37.5%), while that of the 4th-6th graders was 205 (62.4%). The average age of the participants was 9.9 years of age for the total samples, 10.4 years of age for the intervention group, and 9.3 years of age for the comparison group. In terms of the economic status of their families, more than half the participants were considered poor with 153 students (56.2%) being the beneficiaries of the NBLSS or the potential poor. When it comes to family type, a total of 72 students (22%) were living with single parents, 38 students (11.6%) with grandparents, and 11 students (3.4%) practically acting as the head of their family. In total, 121 students or 37% of the total participants were of disorganized families. The pre-scores for each scale used to identify the effectiveness of the program and the effects of moderating variables were the following: the scores for self-assertiveness were -2.9 and -2.5, while the scores for alcohol expectancy were 4.9 and 5.8 for the intervention and comparison groups, respectively.

		Total		Intervention Group		Comparison Group		x ²	p
Gender	Male	139	(42.4)	68	(38.2)	71	(47.3)	2.78	0.10
	Female	189	(57.6)	110	(61.8)	79	(52.7)	2.78	0.10
School Grade	1	46	(14.0)	11	(6.2)	35	(23.3)	31.09	<0.001
	2	42	(12.8)	18	(10.1)	24	(16.0)	31.09	<0.001
	3	35	(10.7)	21	(11.8)	14	(9.3)	31.09	<0.001
	4	66	(20.1)	39	(21.9)	27	(18.0)	31.09	<0.001
	5	70	(21.3)	38	(21.3)	32	(21.3)	31.09	<0.001
	6	69	(21.0)	51	(28.7)	18	(12.0)	31.09	<0.001
Housing status	Own	53	(37.3)	26	(32.1)	27	(44.3)	4.61	0.20
	Longterm Rent	27	(19.0)	20	(24.7)	7	(11.5)	4.61	0.20
	Monthly Rent	43	(30.3)	24	(29.6)	19	(31.1)	4.61	0.20
	Other	19	(13.4)	11	(13.6)	8	(13.1)	4.61	0.20
Economic status	Welfare Recipient	89	(32.7)	49	(33.6)	40	(31.7)	3.67	0.16
	Non-welfare recipient	119	(43.8)	57	(39.0)	62	(49.2)	3.67	0.16
	Potential poor	64	(23.5)	40	(27.4)	24	(19.0)	3.67	0.16
Both parents working	Yes	73	(22.3)	25	(14.0)	48	(32.0)	15.17	<0.001
	No	255	(77.7)	153	(86.0)	102	(68.0)	15.17	<0.001
Living as head of family	Yes	11	(3.4)	9	(5.1)	2	(1.3)	3.48	0.06
	No	317	(96.7)	169	(94.9)	148	(98.7)	3.48	0.06
Living with single parents	Yes	72	(22.0)	42	(23.6)	30	(20.0)	0.61	0.43
	No	256	(78.1)	136	(76.4)	120	(80.0)	0.61	0.43
Living with grandparents (without parents)	Yes	38	(11.6)	21	(11.8)	17	(11.3)	0.02	0.90
	No	290	(88.4)	157	(88.2)	133	(88.7)	0.02	0.90
Age		9.9 ± 1.8		10.4 ± 1.7		9.3 ± 1.8		5.43	<0.001
Self-assertiveness		-2.7 ± 11.6		-2.9 ± 11.4		-2.5 ± 11.9		-0.32	0.75
Alcohol expectancy		5.3 ± 5.6		4.9 ± 5.6		5.8 ± 5.6		-1.44	0.15

Table 1: Characteristics of the sample (N=328).

Pre-program comparison of the intervention and comparison groups

As this research used a quasi-experimental design, meaning that there might be some elements of selection bias that can compromise internal validity, x² values and significance probability values were measured in order to determine the homogeneity of the two groups before the program in terms of important variables, as shown in Table 2. As mentioned in the research methods section, the moderating variables of gender, grade group, and self-assertiveness were considered, as well as alcohol expectancy. According to Table 2, the two groups do not show any statistically significant differences in terms of gender, self-assertiveness, alcohol expectancy. However, they show significant differences in important socio-demographic variables,

including grade group (p<0.001), whether they are of families where both parents work or not (p<0.001), and age (p<0.001).

Differences between the intervention and comparison groups in alcohol expectancy

A t-test was performed in order to see if the variations in the scores of alcohol expectancy before and after the program demonstrate any statistically significant differences between the intervention and comparison groups. The results are shown in Table 3.

In terms of the variations noticed in the average score of alcohol expectancy before and after the program, the score dropped by an average of 1.6 points in the intervention group while there was little

change in the comparison group; this difference between the two groups was statistically significant (p=0.01). Therefore, Hypothesis 1-1 of this research, which postulated that the alcohol use prevention

program will lower the positive alcohol expectancy of the subjects, is sustained.

			Pretest		Posttest		Change		N	t-value	p
			Mean	SD	Mean	SD	Mean	SD			
Intervention Group	Total		4.9	5.6	3.5	4.6	-1.6	4.0	118	-4.26	<0.001
	Gender	Male	4.8	5.7	3.8	5.0	-1.8	4.1	40	-2.71	0.01
		Female	4.9	5.6	3.4	4.4	-1.5	4.0	78	-3.27	0.002
	Grade	1-3	5.6	5.9	3.7	4.7	-0.8	3.7	31	-1.20	0.24
		4-6	4.6	5.5	3.5	4.6	-1.9	4.1	87	-4.21	<0.001
	Assertiveness	Active	4.9	5.9	3.7	4.1	-1.2	3.7	47	-2.22	0.03
Passive		4.7	5.3	3.1	4.8	-1.8	4.2	71	-3.65	<0.001	
Comparison Group	Total		5.8	5.6	5.3	6.6	0.2	6.1	107	0.25	0.80
	Gender	Male	6.7	5.8	5.8	6.8	-0.1	6.9	50	-0.06	0.95
		Female	5.0	5.3	4.9	6.3	0.3	5.5	57	0.46	0.65
	Grade	1-3	5.3	5.6	3.6	5.7	-0.6	5.9	48	-0.68	0.50
		4-6	6.3	5.6	6.9	6.9	0.8	6.3	59	0.91	0.37
	Assertiveness	Active	6.3	5.7	7.0	6.7	1.3	7.5	41	1.12	0.27
Passive		5.5	5.5	4.3	6.3	-0.6	5.0	66	-0.93	0.36	

Table 2: Pre-and Post-test scores between intervention group and comparison groups.

			Intervention Group		Comparison Group		Difference		t-value	p
			Mean	SD	Mean	SD	Mean	SD		
Alc. exp.	Total		-1.6	4.0	0.1	6.1	-1.7	5.1	-2.47	0.01
	G.	Male	-1.8	4.1	-0.1	6.9	-1.7	5.8	-1.46	0.15
		Female	-1.5	4.0	0.3	5.5	-1.8	4.7	-2.12	0.04
	Grade	1-3	-0.8	3.7	-0.6	5.9	-0.2	5.2	-0.21	0.84
		4-6	-1.9	4.1	0.7	6.3	-2.6	5.1	-2.79	0.01
	Asse.	Active	-1.2	3.7	1.3	7.5	-2.5	5.8	-1.96	0.06
Passive		-1.8	4.2	-0.6	5.0	-1.2	4.6	-1.57	0.12	

Table 3: Analysis of the changes in alcohol expectancy between intervention group and control group. Alc. exp.=Alcohol expectancy; G.=gender; Asse.=Assertiveness.

Results of the effects of moderating variables on alcohol expectancy

A multivariate regression analysis was conducted in order to control the impact of confounding variables and analyze the actions of the moderating variables. Moreover, the variance inflation factor (VIF) was checked before the analysis with an aim to check multi-collinearity issues between the variables that affect the participants' alcohol expectancy. In general, the VIF value is not expected to go beyond 10, but conservatively, it should remain under 3.3 [33]. The

VIF values of all the variables used in this research are under 3.0, ensuring that the multi-collinearity issues are not serious.

Moderating effects on the association between the program and alcohol expectancy

Table 4 shows the results of a multivariate regression analysis which was carried out with an aim of exploring the moderating roles of the variables. First, the moderating effects of gender on the association between the program and the scores of alcohol expectancy did not turn out to be significant. On the contrary, grade group and self-

assertiveness demonstrated significant moderating effects ($p=0.04$, $p=0.03$).

Variables	Alcohol Expectancy						
	β	Beta	Std. Error	t-value	P	Tolerance	VIF
(constant)	4.15	-	0.80	5.16	<0.001	-	-
Program (1)	-3.72	-0.33	0.93	-4.01	<0.001	0.41	2.41
Pretest score (2)	0.54	0.51	0.06	9.55	<0.001	0.97	1.03
Male (3)	-0.64	-0.06	0.90	-0.71	0.48	0.46	2.18
Grade 1-3 (4)	-1.74	-0.15	0.88	-1.99	0.05	0.51	1.96
Assertiveness (5)	0.14	0.27	0.04	3.47	<0.001	0.46	2.18
(1) X (3)	0.65	0.04	1.25	0.52	0.61	0.39	2.57
(1) X (4)	2.72	0.17	1.29	2.11	0.04	0.45	2.20
(1) X (5)	-0.12	-0.17	0.05	-2.14	0.03	0.46	2.20
R ²	0.39						
Adjusted R ²	0.37						
F (p)	17.54 (<0.001)						

Table 4: Results of the multivariate regression analysis of moderating variables on alcohol expectancy (N=328).

As a result, both Hypothesis 1-2 ‘The impact of the alcohol use prevention program on alcohol expectancy will be moderated by grade group’ and Hypothesis 1-4. ‘The impact of the alcohol use prevention program on alcohol expectancy will be moderated by self-assertiveness’ were verified. However, Hypothesis 1-3 ‘The impact of the alcohol use prevention program on alcohol expectancy will be moderated by gender’ failed to be proven.

Discussion and Conclusion

This study was designed to evaluate the effectiveness of a program intended to prevent use of alcohol, which low-income youth are currently experiencing or may experience in the future, and to look into moderating variables that may affect the program.

Four significant results were shown. First, according to a paired t-test, which was conducted to identify if there is any significant score changes in the intervention and comparison groups before and after the program, the mean scores of alcohol expectancy were lowered by a significant amount ($p<0.001$) in the intervention group, while the score changes in the comparison group were not significant ($p=0.80$). These results are consistent with the findings reported by Kim et al. [34] that found the level of proper knowledge and negative attitude toward alcohol use in adolescent subjects to have significantly risen after participation in an alcohol use prevention program.

Second, in regards to the roles of moderating variables, it was found that the grade group variable, for which the samples were divided into lower and upper groups by academic year, significantly moderated the

association between the program and alcohol expectancy ($p=0.04$). According to the findings, the program lowered the scores of alcohol expectancy in older students by a larger margin than in younger students. This result might be attributed to the developmental characteristics of childhood. As students in upper grades, in general, have a higher literacy rate and are more capable of abstract thinking than those in lower grades, they seem to be more responsive to drinking-preventive messages. In regards to linguistic development, children’s ability in oral presentation and grammar skills starts making a prominent advance around the third or fourth grade of elementary school. Furthermore, as for cognitive development, around 11-12 years of age is when children start moving from concrete thinking to formal thinking, as a result of which they can think objectively and do deductive reasoning on assumptions [22]. This also seems to have contributed to the lowered alcohol expectancy of older students after the program. Another possible reason behind the difference between the two grade groups is that the content of the program might have been too difficult for the younger students to comprehend. In order to cover first graders through sixth graders with one program, the sensory, linguistic and cognitive developmental stages of lower elementary students should be considered. At the same time, the program needs to be interesting enough for older students to keep them motivated to participate. As a result of such efforts, knowledge of the possible problems caused by alcohol consumption might not have been properly delivered to the lower-grade students.

Third, gender was not a significant moderator on the relationship between the program and alcohol expectancy. The direct comparison of this finding with other research is very limited due to the scarcity of previous studies of similar programs that dealt with the moderating effect of gender. One of the papers that reported similar findings to the present one is Yoon’s study [14] of factors related to adolescent delinquency, in which she stated that there was no statistically significant difference between male and female subjects. According to the results of a study [35] of underprivileged adolescents, however, gender acts as a significant moderator to externalizing problem behaviors. All in all, the moderating roles of gender appear to call for more careful attention in future studies.

Fourth and last, the moderating role of self-assertiveness on the association between the program and alcohol expectancy turned out to be significant ($p=0.03$). This finding that scores of alcohol expectancy were lowered by a lower margin for students with higher self-assertiveness is consistent with that of Wills and Weissman, both of which reported that self-assertiveness serves as a moderating variable [19]. There is a tendency for teenagers to learn drinking behavior due to peer pressure or while hanging out with friends who drink. The attitudes of peer groups toward alcohol use also have a significant influence on alcohol-drinking behavior among youth. This research has reaffirmed the fact that alcohol use prevention programs should include training in self-assertion skills that can help children effectively respond to peer pressure.

Implications of the Research

This research is meaningful in the fact that it has offered implications that might be useful for future alcohol use prevention programs by analyzing the moderating effects of several variables including gender, grade group, and self-assertiveness on alcohol expectancy, as well as providing an alcohol use prevention program to children of low-income families, who are more likely to be exposed to

alcohol abuse-related behaviors. Based on the findings of the study, followings suggestions are recommended:

First, those who participated in the alcohol use prevention program showed more positive changes in their attitude toward drinking than those who attended the self-concept improvement program. This finding indicates that a community program for the prevention of alcohol abuse should be structured in such a way as to improve the participants' knowledge of and attitude toward alcohol use. If it is combined with a self-esteem enhancement program, the preventive approach can be even more successful.

Second, the results of this research suggest that teaching techniques to meet the needs of lower elementary students should be developed to ensure that younger students, who have yet to develop literacy and thinking ability, are able to fully receive the benefits of the program. In particular, when it comes to underprivileged children who may have limited exposure to learning opportunities due to their economic status and environment, possible cognitive behavioral issues such as basic learning abilities and attention deficit may need to be carefully evaluated by experts and reflected in the program.

Third, it is deemed essential to educate the families of the children in order to successfully intervene in the alcohol use of low-income youth and to assist in their sound development. More than half the total subjects of this study were from needy families who were entitled to the subsidies of the national welfare system or benefits for those potentially in poverty. Many of them also lacked educational opportunities as well as proper care and protection from their family and community that are available to their non-poor counterparts. Even though they are classified as a non-poor group, the situation for those of poor single-parent households, those who need lunch subsidies, or those of working parents who cannot afford a caretaker for their children was not much different. In these cases, a counseling service might be necessary to help the parents properly carry out the functions of their family. Considering a plethora of studies reporting the direct impact of parental alcohol drinking on children's behaviors, programs should be devised to include primary caretakers in the drug abuse prevention program.

Limitations of the Research

There are few noteworthy limitations to the study. First, the findings of this study may not be able to be generalized due to its regional restriction in sampling. Second, the present model has included a limited number of variables that have moderating effects on the relationship between the alcohol use prevention program and alcohol expectancies. It is possible that the influences of gender, age, and self-assertiveness, which were found to be major moderating variables, might have been overestimated in this research. Last, all the scales used in this paper were self-reported. Therefore, there is a possibility that the subjects might have been subject to defensive mechanisms such as repression or denial. There is also a possibility of insincere responses. Future studies may need to devise more reliable means of data collection, modifying their experimental approaches or taking reports of teachers and/or primary caregivers to complement self-reported data.

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