Protective and Risk Factors of Alcohol Use Among Southeastern Pennsylvania Youth

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The purpose of this study was to identify the risk and protective factors of alcohol use in the past 30 days among southeastern Pennsylvania youth. The study utilized the Pennsylvania Youth Survey (PAYS) 2015 to analyze the findings. PAYS collected the data from youth in the 6th, 8th, 10th, and 12th grades on substance use perceptions and attitudes. The data were collected in odd years. Risk factors that showed important effects on youth alcohol use in the past 30 days were: (1) Community: laws and norms favorable toward drug use and perception of accessibility to drugs; (2) Family: family management, family history of antisocial behavior, and parental attitudes that favor drugs; (3) School: academic failure; and (4) Peer/Individual: all risk factors recognized by PAYS except depression and attitudes toward antisocial behavior. The only protective factor that showed significant effect on youth alcohol use in the past 30 days is family opportunities for involvement. This study also provides implications for social welfare policies, social work practices, education, and future research.

Keywords: risk factors, protective factors, youth alcohol use

Introduction

Youth alcohol use has been a significant issue in the United States. On a national level, approximately 33% of high school-aged youth reported drinking at least one alcoholic beverage at any given time within 30 days of a self-reporting survey (Department of Health and Human Services, 2015). The Pennsylvania Youth Survey (PAYS) reported significantly lower statewide average rates of alcohol use, with 18.2% of adolescents reporting drinking alcohol within 30 days of being

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surveyed (Pennsylvania Commission of Crime and Delinquency, 2016). According to the Pennsylvania State Epidemiological Outcomes Workgroup (2017), the youth alcohol use in the past 30 days has decreased from 2011 to 2015. In 2015, Pennsylvania estimated about 17.6% of the youth self-reported that they were involved in alcohol use in the past 30 days (Pennsylvania State Epidemiological Outcomes Workgroup, 2017). In addition, Strohte (2018) reported that about 499,000 youth drank alcohol every year and about 4% youth took at least one alcohol drink within 30 days in 2009. According to these data, the youth alcohol use within 30 days has become an issue in Pennsylvania.

The consequences of youth alcohol use are related to school offenses, arrests, and car crashes among the youth (Pennsylvania State Epidemiological Outcomes Workgroup, 2017). In addition, youth alcohol use may lead to higher rates of suicide, homicide, brain injuries, alcohol poisoning, and sexual abuse (Strohte, 2018). In 2013, youth alcohol use was a contributing factor for youth pregnancy and sexual involvement issues (Strohte, 2018). According to the Centers for Disease Control and Prevention (CDC, 2020), alcohol use results in more than 3,500 deaths among underage youth each year. Other consequences of youth alcohol use include academic failure, higher rate of absence from school, fighting and lack of participation in youth activities, drinking and driving, disruption of normal growth, memory problems, and misuse of other drugs (CDC, 2020). Because of the significant effects of alcohol use among the youth, preventing underage drinking in Pennsylvania has become important.

To prevent youth alcohol use, risks and protective factors should be studied. Guillén, Roth, Alfaro, and Fernández (2015) found that parental monitoring and the father–adolescent relationship have a significant effect on lowering youth alcohol consumption. Cheng and Lo (2017) also found protective factors that can help the youth to change from heavy drinkers to nondrinkers: increased neighborhood attachment, public assistance receipt, strong school engagement, and substance abuse treatment, among others. Other studies also found that levels of parental permissiveness and parental monitoring have a significant effect on adolescent substance use. These associations have been found to also influence personality traits that directly influence an adolescent's proclivity for alcohol use early in life, ultimately leading to alcohol-related problems that occur later in life (Colder, Shyhalla, & Frndak, 2018; Thompson, Roemer, & Leadbeater, 2015). These alcohol-related problems of antisocial behavior and major depression present themselves in late adolescence to early adulthood (Boden & Foulds, 2016; Hammerton et al, 2017).

However, Case's (2007) study in the United Kingdom found that the risk factors for youth alcohol use include antisocial behavior/attitudes, inadequate relationships/activities in school, negative experiences in school, lack of commitment to school, and impulsivity. In addition, while comorbidity with other psychological characteristics are considered to be significant risk factors associated with drinking at an early age, familial environment and peer groups are considered to be causal factors directly linked with adolescent alcohol use (Bențea, 2014). Guillén

et al. (2015) found that peer pressure, antisocial behavior, and risk perception of alcohol use have a significant effect on youth alcohol consumption. In fact, it has been found that use of alcohol in early adolescence has a significant relationship with marijuana use in later adolescence (Pampati et al., 2018).

To gain a better understanding of youth alcohol use, this study used the 2015 PAYS from a southeastern Pennsylvania school district to analyze the data. The purpose of this study was to learn the risk and protective factors of youth alcohol use and to use the study results to prevent youth alcohol use. The research questions of this study are: (1) What are the protective factors of youth alcohol use in the past 30 days? and (2) What are the risk factors of youth alcohol use in the past 30 days?

Method

Data Source

This study utilized secondary data from the PAYS of 2015. The data were acquired through the Pennsylvania Commission of Crime and Delinquency (PCCD). Data were collected by the PCCD in participating school districts throughout the state of Pennsylvania. PAYS data were collected in odd-numbered years on the youth in the 6th, 8th, 10th, and 12th grades, with the intent to gain an insight into the attitudes, knowledge, and behaviors of the youth with regard to substance use (Pennsylvania Commission of Crime and Delinquency, 2015). The questions include four dimensions: community, school, family, and peer/individual, and has about 260 questions. In this study, we focused on data from a southeastern Pennsylvania school district. The data collection was done through paper/pencil or the online format and was totally anonymous (Pennsylvania Commission of Crime and Delinquency, 2016). Students volunteered to participate in the survey and could withdraw at any time. There were 334 students who participated in this school district.

Data Analysis Methods

In this study, we focused on how risk and protective factors affect youth alcohol use. The independent variables are risk and protective factors. There are 22 risk factors in four domains: (1) Community: low neighborhood attachment, laws and norms favorable to drug use, perceived availability of drugs, and perceived availability of handguns; (2) Family: poor family management, high family conflict, family history of antisocial behavior, parental attitudes favorable toward drug use, and parental attitudes favorable toward antisocial behavior; (3) School: academic failure and low school commitment; and (4) Peer-Individual: rebelliousness, attitudes favorable toward drug use, attitudes favorable toward antisocial behavior, perceived risk of drug use, interaction with antisocial peers, peers' drug use, sensation-seeking, rewards for antisocial involvement, gang involvement, depression, and antisocial behavior outcome. There are eight protective factors in these four

domains: (1) Community: rewards for involvement; (2) Family: family attachment, family opportunities for involvement, and rewards for involvement; (3) School: opportunities for involvement and rewards for prosocial involvement; and (4) Peer-Individual: religiosity and belief in moral order. Both risk and protect factors measure as 0 at below cutoff point and 1 at above cutoff point. Below cutoff point means low risk for risk factors and low protection for protective factors. Above cutoff point means high risk for risk factors and high protection for protective factors.

The dependent variable in this study is alcohol use in the past 30 days. Alcohol use includes consumption of beer, wine, or hard liquor. The alcohol use measures are 1 for 0 occasion, 2 for 1–2 occasions, 3 for 3–5 occasions, 4 for 6–9 occasions, 5 for 10–19 occasions, 6 for 20–39 occasions, and 7 for 40 or more occasions. This study reports both descriptive analysis and inferential analysis results. Frequency and percentage are reported for the youth demographic information. The Pearson's chi-square is used to test the significance between (1) risk factors and youth alcohol use in the past 30 days and (2) protective factors and the youth alcohol use in the past 30 days.

Results

Descriptive Analysis Results

Of the 334 students in this study, 89 (26.6%) were in the 6th grade, 85 (25.4%) in the 8th grade, 96 (28.7%) in the 10th grade, and 64 (19.2%) in the 12th grade. Of the total, 163 (48.8%) students were female, 169 (50.6%) were male, and 2 (0.6%) did not report their gender. For alcohol use, 259 (77.5%) youth reported that they did not drink any alcohol in the past 30 days, 51 (15.3%) reported 1–2 occasions, 14 (4.2%) reported 3–5 occasions, 5 (1.5%) reported 6–9 occasions, and 1 (0.3%) reported 20–39 occasions of alcohol use, while 4 (1.2%) did not answer (see Table 1).

As for how and where the youth gained access to alcohol, the top three sources are from family or religious celebrations, parents or friends' parents, and friends and siblings. Other important sources are took without permission, stole, or found it; from other relatives; or other sources (see Table 2). Some youth reported access

Table 1 Youth alcohol use in the past 30 days

	Frequency	Percent
0 Occasions	259	77.5
1–2 Occasions	51	15.3
3–5 Occasions	14	4.2
6–9 Occasions	5	1.5
20–39 Occasions	1	0.3
Missing	4	1.2
Total	334	100.0

Note: "Alcohol use" means how many times in the past 30 days you have had beer, wine, or hard liquor.

to alcohol from a restaurant, bar, or pub; public events; and gave someone money to buy it for them. Overall, family members and friends are the major sources for this southeastern Pennsylvania school district youth to gain access to alcohol.

Inferential Analysis Results

Risk Factors

The risk factors are discussed in four domains: community, family, school, and peer/individual. Table 3 shows the chi-square results of community risk factors

Table 2 Alcohol sources for youth

Access alcohol	Number of youth
Family or religious celebrations	41
Restaurant, bar, pub	2
Public event (sporting event, concert, etc.)	3
Gave someone money to buy it for me	7
Parents or friends' parents	37
Friends, brothers, or sisters	37
Other relatives	12
Other source	15
Took without permission, stole, or found it	20

Table 3 Community risk factors and youth alcohol use

		0 Occa- sions	1–2 Occasions	3–5 Occasions	6–9 Occasions	20–39 Occasions	<i>p</i> value
Low neighborhood	Below cutoff point	157	26	5	1	1	0.068
attachment	Above cutoff point	99	25	9	4	0	
Laws and norms	Below cutoff point	171	25	6	2	0	0.021*
favorable to drugs	Above cutoff point	83	26	8	3	1	
Perceived	Below cutoff point	190	30	6	0	1	0.000*
availability of	Above cutoff point	62	21	8	5	0	
drugs	Below cutoff point	176	30	8	3	0	0.247
Perceived	Above cutoff point	75	21	6	2	1	
availability of							
handguns							

* $p < 0.05$.

and youth alcohol use. Among all community risk factors, laws and norms favorable to drugs and perceived availability of drugs show significant effects on youth alcohol use in the past 30 days (see Table 3).

Table 4 shows the significance of family risk factors and youth alcohol use. Within all family risk factors, poor family management, family history of antisocial behavior, and parental attitudes favoring drug use show significant influence on youth alcohol use in the past 30 days. But family conflict and parental attitudes that favor antisocial behavior do not show an important effect on youth alcohol use in the past 30 days.

Table 5 shows the significance of school factors and youth alcohol use. School academic failure shows significant effect on youth alcohol use in the past 30 days, but low school commitment did not show any significant effect on youth alcohol use in the past 30 days.

Among all Peer-Individual risk factors, only attitudes favorable toward antisocial behavior and depression did not show a significant effect on youth alcohol use in the past 30 days. Other risk factors, such as rebelliousness, attitudes favorable toward drug use, perceived risk of drug use, interaction with antisocial peers, peers' drug use, sensation-seeking, rewards for antisocial involvement, gang

Table 4 Family risk factors and youth alcohol use

		0	1-2	3-5	6-9	20-39	<i>p</i>
		Occasions	Occasions	Occasions	Occasions	Occasions	value
Poor family management	Below cutoff point	165	28	7	0	0	0.015*
	Above cutoff point	89	22	7	5	1	
Family conflict	Below cutoff point	165	26	8	2	0	0.196
	Above cutoff point	88	24	6	3	1	
Family history of antisocial behavior	Below cutoff point	183	27	7	1	0	0.002*
	Above cutoff point	67	23	7	4	1	
Parental attitudes favor drug use	Below cutoff point	191	27	5	0	0	0.000*
	Above cutoff point	60	23	9	5	1	
Parental attitudes favor antisocial behavior	Below cutoff point	155	27	8	2	1	0.623
	Above cutoff point	96	23	6	3	0	

* $p < 0.05$.

Table 5 School risk factors and youth alcohol use

		0	1–2	3–5	6–9	20–39	<i>p</i>
		Occasions	Occasions	Occasions	Occasions	Occasions	value
School academic failure	Below cutoff point	163	27	4	3	0	0.021*
	Above cutoff point	83	23	10	2	1	
Low school commitment	Below cutoff point	123	22	7	1	1	0.508
	Above cutoff point	127	29	7	4	0	

* $p < 0.05$.

involvement, and antisocial behavior outcome, all show a significant effect on youth alcohol use in the past 30 days (see Table 6).

Protective factors

The protective factors also have four domains: community, family, school, and peer-individual. Table 7 shows the chi-square results for all protective factors and youth alcohol use in the past 30 days. The results show that only family opportunities for involvement have a significant influence on youth alcohol use in the past 30 days. Other protective factors did not show any significant difference on youth alcohol use in the past 30 days.

Summary for the Findings

For risk factors, all four domains (community, family, school, and peer-individual) show effects on youth alcohol use in the past 30 days. Two out of four community risk factors show significant influence on youth alcohol use in the past 30 days, three out of five family risk factors show significant influence on youth alcohol use in the past 30 days, one out of two school risk factors show significant influence on youth alcohol use in the past 30 days, and 10 out of 12 peer-individual risk factors show significant influence on youth alcohol use in the past 30 days. In the community, family, and school domains, the risk factors related to accessibility to drug, parental attitudes, legal policy toward drug use, family history of anti-social behavior, and academic failure all show significant effect on youth alcohol use in the past 30 days. However, almost all peer and individual risk factors are important to youth alcohol use in the past 30 days. For protective factors, only the family involvement opportunities significantly affect youth alcohol use in the past 30 days.

Table 6 Peer-individual risk factors and youth alcohol use

		0	1–2	3–5	6–9	20–39	<i>p</i>
		Occasions	Occasions	Occasions	Occasions	Occasions	value
Rebelliousness	Below cutoff point	196	33	8	2	0	0.018*
	Above cutoff point	55	17	6	3	1	
Attitudes favorable to antisocial behavior	Below cutoff point	174	31	8	1	1	0.095
	Above cutoff point	65	15	5	4	0	
Attitudes favorable to drug use	Below cutoff point	181	22	1	0	1	0.000*
	Above cutoff point	58	24	12	5	0	
Perceived risk of drug use	Below cutoff point	161	24	3	2	1	0.003*
	Above cutoff point	85	26	11	3	0	
Antisocial peers	Below cutoff point	195	29	6	1	0	0.000*
	Above cutoff point	37	17	7	4	1	
Peers' drug use	Below cutoff point	206	27	5	0	1	0.000*
	Above cutoff point	26	19	8	5	0	
Sensation-seeking	Below cutoff point	169	21	2	1	1	0.000*
	Above cutoff point	62	25	11	4	0	
Rewards for antisocial involvement	Below cutoff point	193	31	6	1	1	0.000*
	Above cutoff point	41	15	7	4	0	
Gang involvement	Below cutoff point	236	40	13	4	1	0.025*
	Above cutoff point	18	11	1	1	0	
Depression	Below cutoff point	170	27	9	4	1	0.344
	Above cutoff point	81	23	5	1	0	
Antisocial behavior outcome	Below cutoff point	226	38	9	3	1	0.000*
	Above cutoff point	16	11	5	1	0	

* $p < 0.05$.

Table 7 Protective factors and youth alcohol use

		0	1–2	3–5	6–9	20–39	<i>p</i>
		Occasions	Occasions	Occasions	Occasions	Occasions	value
Community rewards for involvement	Below cutoff point	119	30	9	4	0	0.155
	Above cutoff point	136	21	5	1	1	
Family attachment	Below cutoff point	86	18	6	1	0	0.836
	Above cutoff point	162	32	8	4	1	
Family opportunities for involvement	Below cutoff point	79	25	8	1	0	0.032*
	Above cutoff point	174	25	6	4	1	
Family rewards for involvement	Below cutoff point	91	22	6	3	0	0.560
	Above cutoff point	162	28	8	2	1	
School opportunity for involvement	Below cutoff point	114	26	10	4	0	0.146
	Above cutoff point	136	25	4	1	1	
School rewards for prosocial involvement	Below cutoff point	103	27	9	3	0	0.210
	Above cutoff point	145	24	5	2	1	
Peer-individual religiosity	Below cutoff point	140	30	10	4	0	0.348
	Above cutoff point	100	17	3	1	1	
Peer-individual belief in moral order	Below cutoff point	82	19	8	3	0	0.210
	Above cutoff point	153	27	5	2	1	

* $p < 0.05$.

Discussion

Based on the findings of this study, we found that many risk factors are correlated with the previous studies, such as antisocial behavior outcomes, academic failure, parents' attitude toward drug use, accessibility of the drug, and peer influence. These factors seem to have a significant effect on increasing youth alcohol consumption (Bențea, 2014; Case, 2007; Guillén et al., 2015). For protective factors, most of the studies found that school engagement, neighborhood attachment, parental monitoring, and substance abuse treatment are all important factors to

prevent or reduce youth alcohol consumption (Boden & Foulds, 2016; Cheng & Lo, 2017; Guillén et. al., 2015; Hammerton et al., 2017). However, in this study, only family involvement shows a significant effect on youth alcohol use. School involvement, community involvement, family attachment, and peer influence did not have any significant influence on youth alcohol use in the past 30 days. Using these findings, we make suggestions for policy, practice, education, and future research.

Implications for Policy

Our findings show that laws and norms favorable toward drugs and a perceived availability of drugs are important risk factors of youth alcohol use. It means that if we can have more restriction on our policies of youth alcohol use or youth access to alcohol, we may prevent them from drinking alcohol. We should work with policy makers to review the current policies on youth alcohol use, work with law enforcement officers to implement the policies, and ask the stores that sell alcohol to enforce ID checks. In addition, policies that support youth alcohol abuse treatment within the community should be reviewed.

Implication of Practice

For social work practice, social workers can work closely with families to provide family workshop to help improve youth family involvement opportunities. Families can learn how to better interact with their youth at home. In addition, helping parents set up clear rules within the family about alcohol use could also prevent the youth from drinking. The workshop can help families to enhance family management as well. In addition, if the family has an antisocial behavior history, providing the services to help the family deal with behavioral issues can be a great help. For youth peer influence, providing focus groups to help the youth discuss peer pressure and teach them how to say no to alcohol use can also prevent them from drinking.

Implications of Education

Because academic failure is strongly related to youth alcohol use, schools should provide after-school programs to help low-achieving students catch up on their schoolwork. In addition, as antisocial behavior is also related to youth alcohol use, school social workers can also provide behavior treatment to the youth at school, thus helping to prevent them from drinking. Furthermore, educating the youth and the parents about the risks of underage drinking could also help them understand how alcohol affects youths' health in the long term.

Implications of Future Research

More research is needed on why school involvement, community involvement, family attachment, and peer influence did not show a significant influence on youth alcohol use. In addition, qualitative research can be conducted with the youth to discuss their perception of alcohol use, peer influence, and parental attitudes toward alcohol use. Furthermore, the PAYS data were done every other year; instead, a yearly study could be done within each school district to see the trend of alcohol use among the youth. The study could also be done outside of the school settings such as online, so that participants are more likely to provide a true self-report.

Limitations

There are several limitations to this study. First, it used secondary data; consequently, the researchers were unable to collect more in-depth information from the youth about how the risks and protective factors influenced them to drink alcohol. Second, the data collection was done at the youths' school, and they may not have felt comfortable providing the real answers. Third, the data were collected in 2015, and there may be a lot of changes on youth, family, school, and community attitudes toward youth alcohol use since then. We may need more recent data to get a better understanding of youth alcohol use. Finally, the results were from only one southeastern Pennsylvania school district, and we are unable to generalize the results to all Pennsylvania youth. More study is needed to help us prevent and reduce youth alcohol use.

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