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Extended Abstract

High School Students' Substance Abuse Tendencies: A Comparison Based on Personal, Social, and Academic Variables*

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Abstract

This study aims to analyze the substance abuse proclivity of students attending different types of high schools based on some personal, social and academic factors. The study sample consists of students attending different types of high schools (i.e., Science High Schools, Anatolian High Schools, Social Sciences High Schools, Health Vocational High Schools, Vocational and Technical High Schools, and Fine Arts High Schools) in a province located in Turkey's Black Sea region whose city center is considered to be a metropolis (TR: büyükşehir) by Turkish standards during the 2015-2016 academic year. A total of 903 students, of which 513 were female (56.8%) and 390 were male (43.2%), receiving education from the different types of high schools listed above were chosen via simple random sampling. Two forms, namely the personal information form and the Substance Abuse Proclivity Scale, were used to collect data. The research reveals that while high school students' scores measuring substance abuse proclivity significantly differ based on gender, type of high school, grade level, family income, and personal or family substance abuse, they do not significantly differ based on family type or sibling birth order. The findings are discussed in light of the literature. The results of this research will help determine adolescent substance abuse proclivity and increase the knowledge base for future studies seeking to develop prevention methods.

Keywords

Substance abuse proclivity • High school students • Type of high school • Gender • Family

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Substance use is becoming an ever increasing problem not only for developing countries but also for developed ones, especially during adolescence. Day by day, additional substances are added to the list of easily accessible narcotic substances. Although some legal measures have been in response, changes in technology, culture, and the underlying mentalities of individuals have caused an increase in the use and abuse of narcotic substances. Substance abuse or substance use tendency, which is considered as usage probability (MacAndrew, 1986), can differ from personal and social factors. A wide variety of risk factors are thought to affect initial substance use. Such factors influencing substance use or SAP include peer pressure, the desire to prove oneself the want to garner attention, and academic failure in addition to family-related factors, such as attitudes held by family members, substance use by family members, and family economic status. Since individuals living in what may be qualified as dysfunctional families or whose families do not fulfill their familial duties show a higher rate of substance use (Ateş & Akbaş, 2012; Bircan & Erden, 2011; Bjarnason et al., 2003; Brody & Forchand, 1993; Borawski et al., 2003; Griesbach et al., 2003) one's family is considered to be a priority factor in determining an adolescent's behaviors regarding narcotic substance use. Coombs and Landsverg (1988), for example, found that an adolescent's relationship with his parents is effective on alcohol and drug use and that adolescents who consume alcohol do not openly communicate with their parents, cannot express themselves emotionally, are subject to strict rules on television, homework, alcohol, and drugs, want to trust their parents, and desire to have good communication with them. Furthermore, adolescents living in a single-parent home, with a step family, or in whose family there is substance use find themselves at a greater risk of using narcotic substances (Griffin et al., 2000; Herken, Özkan, & Bodur, 2000; Hoffman, 2002; Karatay & Kubilay, 2004; Otten et al., 2008; Ögel et al., 2006; Ritter, Stewart, Bernet, Coe, & Brown, 2002). In this context, the very family structure of adolescents living in dysfunctional families that lack unity and clear communication constitutes a risk factor in terms of substance use.

An inconsistent and hollow family, the quality of communication by parents with their child, and apathy toward their child's success may also affect an adolescent's feeling of belonging to his or her family. In this sense, a peaceful and unproblematic atmosphere in the family is of exceptional importance for an adolescent's social, emotional, and cognitive development. Expectations of family members from each other, substance use in one or more parent or sibling, and parents' being excessively permissive may be considered as the conditions affecting narcotic substance use.

From this point of view, it is possible to prevent one from starting down the path substance use entirely and to develop and enforce precautions to facilitate this prevention. For this reason, it is especially important to determine adolescents' substance use tendencies. This study aims to analyze high school student SAP based on

several personal, social, and academic factors. It is thought that the results of this study will provide meaningful contributions to both the literate and to further studies seeking to develop preventive measures, before adolescents ever encounter narcotic substances.

Method

This study, following a quantitative approach, employs ex post facto research techniques. As ex post facto research if a type of relational research, researchers intend to determine whether two or more groups differ in terms of a specific factor when employing such techniques. More specifically, researchers attempt to detect sources of differences appearing in such studies (Fraenkel, Wallen, & Hyun, 2012, p. 331).

Research Group

The study sample was selected from different high school types (i.e., Science high schools, Anatolian high school, Social Sciences high school, Health Vocational high schools, Vocational and Technical high schools, and Fine Arts high schools) in a province located in Turkey's Black Sea region whose city center is considered to be a metropolis (TR: büyükşehir) by Turkish standards during the 2015-2016 academic year. A total of 903 students, of which 513 were female (56.8%) and 390 were male (43.2%), receiving education from the different types of high schools listed above were chosen via simple random sampling.

Data Collection Tools

Personal Information Form: Prepared by the researchers, this form consists of questions soliciting information on participants' gender, age, high school type, grade level, family income level, family type, family attitude, substance use among family members, and sibling birth order.

Substance Abuse Proclivity Scale: Improved by MacAndrew (1986) and scale making use of MMPI, this scale consists of 36 questions. A score of 16 or more points indicates a proclivity toward substance abuse (Ceyhun, Oğuztürk, & Ceyhun, 2001). Ceyhun, Oğuztürk, and Ceyhun (2001) used the Mac Andrew Alcoholism Scale as their concurrent validity criterion in their validity study and found its correlation coefficient to be .49. The Substance Abuse Proclivity Scale has been shown to correctly identify 84% of drug addicts, 65% of alcohol addicts, 40.5% of psychiatric and 41.5% of normal individuals. The scale was applied twice to 60 individuals over a period of 5 weeks. Test retest reliability was analyzed by the Pearson Moments Correlation Coefficient. The total score correlation for the scale was found to .63.

Table 1
Classification and Normality for Sociodemographic Variables

Variable		Factor	N	Normality Assumption	
SAP		Gender	903	Kolmogorov-Smirnov	
M	SD			D	Df
15.86	3.76	Female	513	.07	513
17.35	3.93	Male	390	.06	390
SAP		Type of High School	903	Kolmogorov-Smirnov	
M	SD			D	Df
15.32	3.81	Science High Schools	101	.09	101
16.48	3.81	Anatolian High Schools	107	.08*	107
15.87	3.67	Social Sciences High School	91	.08*	91
17.31	4.51	Health Vocational High School	69	.12	69
16.98	3.80	Vocational and Technical High School	278	.07	278
16.49	4.25	Imam Hatip High School	143	.05*	143
16.45	3.44	Fine Arts High School	114	.12	114
SAP		Grade Level	903	Kolmogorov-Smirnov	
M	SD			D	Df
16.45	3.71	1st Year	252	.07	252
16.80	3.71	2nd Year	247	.08	247
15.81	4.10	3rd Year	245	.07	245
17.21	4.05	4rd Year	159	.07	159
SAP		Family Income Level	903	Kolmogorov-Smirnov	
M	SD			D	Df
17.84	3.73	Less than 950 TL	88	.08*	88
16.39	3.83	951-1,400 TL	263	.06	263
16.33	3.73	1,401-2,000 TL	153	.10	153
16.68	4.22	2,001-2500 TL	123	.07*	123
16.44	3.94	2,501-3,000 TL	129	.06*	129
16.00	3.91	More than 3,001 TL	147	.07*	147
SAP		Family Type	903	Shapiro-Wilk	
M	SD			S-W	Df
16.59	3.99	Nuclear Family	695	.99	695
16.09	3.70	Extended Family	181	.98*	181
17.14	2.67	Fragmented Family	27	.94*	27
SAP		Family Attitude	903	Shapiro-Wilk	
M	SD			S-W	df
18.12	3.60	Authoritarian– Tough- Strict	106	.98*	106
16.12	3.89	Democratic-Concerned	714	.99	714
17.77	3.69	Unconcerned – Permissive	57	.95	57
17.61	3.64	Careless	26	.97*	26
SAP		Substance Use Situation of the Student	903	Kolmogorov-Smirnov	
M	SD			D	Df
19.16	3.56	Yes	93	.12	93
16.20	3.83	No	810	.05	810
SAP		Substance Use among Family Members	903	Kolmogorov-Smirnov	
M	SD			D	Df
16.82	3.82	Yes	448	.07	448
16.20	3.97	No	455	.06	455
SAP		Sibling Birth Order	903	Shapiro-Wilk	
M	SD			S-W	Df
17.60	4.24	Only Child	40	.98*	40
16.34	3.96	Eldest Sibling	292	.98	292
16.16	3.64	Second Sibling	119	.98*	119
16.71	4.00	Mid Sibling	203	.98*	203
16.51	3.82	Youngest Sibling	249	.98*	249

*$p > .05$.

Statistical Approach

The normality assumptions of the data were tested before analysis. The Kolmogorow-Smirnow test revealed that the data did not follow a normal distribution. The Kolmogorow-Smirnow test results of the Substance Abuse Proclivity Scale are presented in Table 1. Furthermore, the homogeneity of the data was tested according to the demographic variables, and normal distribution was not found to be appropriate ($p < .05$). The Mann Whitney U and Kruskal Wallis tests were used analyze data.

Results

The differences between students' proclivity toward substance abuse based on gender and the presence of substance use in students and family members were examined by conducting a Mann Whitney U test, the results of which are presented in Table 2.

Table 2
Mann Whitney U Test Findings Based on Gender and Family Substance Use

Proclivity toward Substance Abuse		n	X	Sd	MR	U	Z
Gender	Female	513	15.86	3.76	409.75	78358.50	-5.60*
	Male	390	17.35	3.93	507.58		
Presence of Substance Use in Student	Yes	93	19.16	3.56	630.81	21035.50	-7.00*
	No	810	16.20	3.83	431.47		
Presence of Substance Use in Family Members	Yes	448	16.82	3.82	473.19	92427.50	-2.42
	No	455	16.20	3.97	431.14		

*$p < .05$.

As a result of the analysis, the mean SAP scores of male students (X=17.35, Sd=3.93) were found to be significantly higher than those of female students (X=15.86, Sd=3.76) (U=78358.50, z=-5.60, $p < .05$). Furthermore, SAP was found to differ based on whether students or one of their family members used one or more narcotic substance (Respectively U= 21035.50, z= -7.00, p< .05; U= 92427.50, z= -2.42, $p < .05$). The mean SAP scores of students who use one or more narcotic substances (X= 19.16, Sd= 3.56) were found to be significantly higher than those of students who do not use any such substances (X= 16.20, Sd= 3.83). Additionally, the mean SAP scores of students in whose families substance use is present (X= 16.82, Sd= 3.82) were found to be significantly higher than those of students in whose families substance use was not present (X= 16.20, Sd= 3.97).

The differences between students' proclivity toward substance abuse based on type of high school, grade, family type, family attitude, family income, and sibling birth order were examined using the Kruskal-Wallis test, the results of which are presented in Table 3.

Table 3
Kruskal-Wallis Test Findings Based on Type of High School, Grade, Family Type, Family Attitude, Family Income, and –Sibling Birth Order

Proclivity toward Substance Abuse		n	X	Sd	MR	*df*	x^2
Type of High School	Science High School	101	15.32	3.81	380.52	6	16.84*
	Anatolian High School	107	16.48	3.81	442.68		
	Social Sciences High School	91	15.87	3.67	412.34		
	Health Vocational High School	69	17.31	4.51	503.69		
	Vocational and Technical High School	278	16.98	3.80	483.98		
	Imam Hatip High School	143	16.49	4.25	448.03		
	Fine Arts High School	114	16.45	3.44	451.44		
Grade	1st Year	252	16.45	3.71	447.07	3	12.35*
	2nd Year	247	16.80	3.71	474.54		
	3rd Year	245	15.81	4.10	408.80		
	4rd Year	159	17.21	4.05	491.36		
Family Type	Nuclear Family	695	16.59	3.99	457.02	2	3.06
	Extended Family	181	16.09	3.70	425.52		
	Fragmented Family	27	17.14	2.67	500.26		
Family Attitude	Authoritarian – Tough- Strict	106	18.12	3.60	556.20	3	31.54*
	Democratic–Concerned	714	16.12	3.89	427.15		
	Unconcerned–Permissive	57	17.77	3.69	534.60		
	Careless	26	17.61	3.91	529.23		
Family Income	Less than 950 TL	88	17.84	3.73	536.18	5	12.21*
	951-1,400 TL	263	16.39	3.83	445.25		
	1,401-2,000 TL	153	16.33	3.73	444.06		
	2,001-2,500 TL	123	16.68	4.22	462.19		
	2,501-3,000 TL	129	16.44	3.94	446.07		
	More than 3,001 TL	147	16.00	3.91	418.62		
Sibling Birth Order	Only Child	40	17.60	4.24	517.98	4	4.07
	Eldest Sibling	292	16.34	3.96	442.92		
	Second Sibling	119	16.16	3.64	430.33		
	Mid Sibling	203	16.71	4.00	462.03		
	Youngest Sibling	249	16.51	3.82	454.23		

*$p < .05$.

SAP differs depending on the type of high school attended (x^2 (6, N=903)= 16.84, p = .010, $p < .05$), as the mean SAP scores of students studying in Science High Schools (X= 15.32, Sd= 3.81) were lower than those of students studying in Vocational and Technical High Schools (X= 16.98, Sd= 3.80).

SAP also differs depending on grade level (x^2 (3, N=903)= 12.35, p= .006, $p < .05$), as the mean SAP scores of 3rd year students (X= 15.81, Sd= 4.10) were lower than those of both 2nd year (X= 16.80, Sd= 3.71) and 4th year studens (X= 17.21, Sd= 4.05).

SAP does not significantly differ based on family type (x^2 (2, N=903)= 3.06, p = .216, $p > .05$). However, family attitude is a source of difference (x^2 (3, N=903)= 31.54, p = .000, $p < .05$). As a result of the analysis to determine the source of the differences, it was found that the mean SAP scores of students whose families

were Democratic-Concerned (X= 16.12, Sd= 3.89), were lower than those of students whose families were Unconcerned–Permissive (X= 17.77, Sd= 3.69) and Authoritarian–Tough–Strict (X= 18.12, Sd= 3.60).

Another source of difference is family income (x^2 (5, N=903)= 12.21, p = .032, p < .05). It was found that the mean SAP scores of students whose family income was more than 3,001 TL (X= 16.00, Sd= 3.91) were lower than those of students whose family income was less than 950 TL (X= 17.84, Sd= 3.73).

Finally, sibling birth order was not found to affect students' proclivity toward substance abuse (x^2 (4, N=903)= 4.07, p = .396, p > .05).

Discussion

It was determined as a result of this study that certain demographic factors affected high school students' proclivity toward substance abuse while others did not. Specifically, the results show that the mean SAP scores earned by male high school students were significantly higher than those earned by female students. In studies conducted, it was determined that substance use was differentiated according to gender and the rate of substance use of males was higher than females. (Güler et al., 2009; Hibell et al., 2007, p. 15; National Health Service [NHS], 2011, p. 17; Ögel, Taner, & Eke, 2006; Webb et al., 1998). In parallel with this finding, it was found that the tendency of substance use differ according to gender and the tendency of male's substance use is higher than female students. For instance, in their study on the risk of substance abuse at least once lifetime exposure to tobacco, alcohol, and drug use compared to gender, Ögel et al. (2006) emphasized that men are at a greater risk for all other factors except benzodiazepine use than women. In this context, that males exhibit higher rates of smoking, alcohol, and drug use rates than females can be explained by the fact that that it generally more socially acceptable for men to partake in such activities and that the social roles men fulfill are more likely to condone or encourage the use of such substances.

The study also found there to be a relation between students' proclivity toward substance abuse and the type high school they attend. Seeking to determine the source of this difference, researchers found that the mean SAP scores of students attending Science High Schools were lower than those of students attending Vocational and Technical High Schools. Since it is known that students attending Science High Schools in Turkey are more successful than those attending Vocational and Technical High Schools, this finding support the findings of previous studies in the literature showing that as academic success decreases, narcotic substance abuse increases (Çorapçıoğlu & Ögel, 2004; Miller & Miller, 1997; Tokdemir, Aksu, & Baransel, 2003). The study also revealed there to be a significant relation between

grade level and SAP. Specifically, 3rd year students' mean SAP scores were lower than those of 2nd and 4th year students. In their studies of drug abuse by grade level, Özmen and Kubanç (2013) discovered that 2nd and 3rd year students' use of narcotic substances were relatively lower and Taşçı et al. (2005) found that smoking rates are higher among 3rd year high school students. A study by Patton et al. (2004) revealed that the lifetime substance abuse rate was almost twince as high in the middle-aged adolescence and three times higher in the late adolescence period. In the same study, substance use in the past months was found to be moderately high in middle-aged adolescence although was twince as high in late adolescence. In the current study, is the researchers discovered that of the four grades surveyed, 3rd year high school students earned the lowest and 4th year the highest mean SAP scores. As a result, although the relevant literature partially supports the findings of the present study, there is no consistency. Erdemar and Kurupınar (2014) stated that the majority of students in their study started to use narcotic substances during their secondary education and that the reason for this is because they are seeking social acceptance and because cigarettes and other substances facilitate friendships and social acceptance. During this period, a teenager wanting to be part of a larger group may think that he will lose his friendships by rejecting a proposal to smoke or use another substance. On the other hand, the teenagers' desire to prove themselves and the efforts they make to show that they have fully matured can also be postulated as reasons for the increased use of narcotic substances during this period. Furthermore, it is also known that the influence friends have increases during secondary education. In addition to teenagers' efforts to influence their environment and the opposite sex, changes in hormones can cause teenagers' enthusiasm to peak, leading them to pursue instant pleasures at the expense of their future. For this reason, teenagers' curiosity and desire for recreation may constitute important elements in regard to substance abuse.

No significant relation was found between high school students' family type (core, wide and fragmented family) and SAP. However, high school students who live in fragmented families were found to have a higher proclivity toward substance abuse than do students living in other family types. In this study, 77.0% (N = 695) of the students live in a nuclear family home, 20.0% (N = 181) live with extended family members, and 3.0% (N = 27) live in a fragmented family. Taking these percentages into consideration, since the number of students living in a fragmented family is significantly less than the number of students living in other family types, the study's results may be skewed. In future studies, it is recommended that this specific study be repeated while ensuring that different family types are equally accounted for. In this context, studies exist that support the findings of the current study. In his study, Şen (2011) found that compared to other family types, adolescents living in fragmented families, single-parent homes, and with relatives exhibited a higher frequency of smoking, alcohol, and cannabis use. Hoffman (2002) found that adolescents living in

a single-parent home or with step parents have a significantly higher risk of falling into substance abuse. Otten et al. (2008) reached a similar conclusion in their study. However, Pekşen et al. (2005) found that it made little difference whether one's parents were together or divorced or whether one had died among university students' smoking rates. As such, children raised in healthy families are more likely to become happy, self-confident, respectful, and successful individuals able to establish positive relationships with their environment both during and after adolescence. Unhealthy familial structures may lead to problems not only between parents and children but also between these same children and society. Children living in divided families or in families that do not provide sufficient care and support are at a greater risk of using narcotic substances to draw attention both their family and the community. Such children may seek out groups of friends to meet the needs for love in attention that they were unable to find in their families.

Another finding related to the family in the present study is that family attitude (i.e., authoritarian-rigid-strict, unconcerned-permissive, democratic-concerned, or negligent) and SAP are related. This study found that the mean SAP scores of adolescents living in democratic-concerned families were lower than those of adolescents living in unconcerned-permissive and authoritarian-rigid-strict families. In other words, adolescents living in authoritarian-rigid-strict and unconcerned-permissive families are at a greater risk of abusing narcotic substances. For instance, if families are unable to help children solve their problems, children will exhibit increasing amounts of negative behaviors whereas behavioral problems decrease as inter-family communication, emotional responses, family duties, behavioral control, attention, and participation in common family activities increase (Savi & Akboy, 2008). It is therefore emphasized that individuals who grow up experiencing distant, hostile, or conflicted family relationships have a higher likelihood of falling into substance abuse than those who grow up in warm and close families (Ateş & Akbaş, 2012). Similarly Bircan and Erden (2011) found that individuals experiencing drug addiction tend to have been raised in a more refusing and negative family environment. On the other hand, it is noteworthy that there is a significant relation between high parental control and lower rates of smoking, alcohol, and cannabis use in adolescents (Borawski et al., 2003; Choquet et al., 2008). In this sense, Coombs & Landsverg's study (1988) supports the findings of the current study. In their study, they emphasized that the parent-child relations are effective in controlling alcohol and substance use, that adolescents who use alcohol and other addictive substances are unable to communicate positively with their parents, unable to express themselves emotionally, and have strict rules in their home. In contrast to democratic families, there is a very strict implementation of the rules are determined by parents without discussing or negotiating them with their children in authoritarian families. What the child thinks is not taken into consideration in such families. Family members are often

unaware of each other's behaviors and thoughts in families where members have a limited and distant relationship with each other. Adolescents raised in such families and who have not yet acquired the ability to make the right decisions can easily make mistakes. Individuals who grow up in such families may seek the attention and compassion that was lacking in their families and use cigarettes, alcohol, or other narcotic substances in order to enter a certain group of friends.

A significant relationship was found to exist between family income level and SAP in the current study. Specifically adolescents whose family income was in excess of 3,001 TL earned significantly lower mean SAP scores than did students whose family income was less than 950 TL. Similarly, Miller and Miller (1997) emphasized that socioeconomic level is the main determinant of substance use in men. Several other studies found that substance used decreased as one's socioeconomic level increased (Bolland, 2003; Ögel et al., 2006; Sidney, Beck, Tekawa, Quesenberry, & Friedman, 1997). Contrary to these findings, Poorasl et al. (2007) and Tot et al. (2004) found that substance use increased as socioeconomic level is increased. Yıldırım (1997) found that smoking was more common among students from lower socioeconomic levels and that alcohol use was more frequent among students from higher socioeconomic levels. In the current study, high school students whose family income was high were found to be less inclined to use addictive substances compared to those with a lower family income. In terms of the relationship between socioeconomic, no consistent results exist in the literature. In this context, individuals are able to have the negative attitudes towards their family, future, and life when their income levels decreases. Therefore adolescents experiencing high levels of hopelessness may be more likely to turn to narcotic substances for relief. Moreover, it is thought that adolescents with low family income may be more inclined to use addictive substances due to having to cope with difficult living conditions, family problems due to economic troubles, and feelings of inadequacy.

Regarding the presence of substance use in the family, high school students in whose families substance use was present were found to have a significantly higher proclivity toward substances abuse than were students in whose family substance use was not present. There are many studies supporting this finding (Drapela & Mosher, 2007; Goodwin et al., 1977; Görgün et al., 2010; Griesbach et al., 2003; Güler et al., 2009; Kilpatrick et al., 2000; Otten et al., 2008; Pıçakçıefe, Keskinoğlu, Bayar, & Bayar, 2007; Turhan et al., 2011). Studies researching of relationship between substance dependence and families have usually focused on the use of addictive substances among family members. Since the family constitutes an important socialization element, whether one's family members use addictive substances both directly and indirectly influences substance use in adolescents, as younger family members take as role-models family members who use addictive substances or may be exposed directly to such substances through the active use of or proposal by a

family member. Research in this area shows there to be a strong correlation between parental substance use and that of children (Herken, Özkan, & Bodur, 2000; Karatay & Kubilay, 2004; Ögel, Taner, & Eke, 2006; Ritter et al., 2002).

The last of this study's findings is that no significant relationship was found to exist between sibling birth order and SAP. Although the present study found no such relation, other studies in the literature have reached different conclusions (Argys, Rees, Averett, & Witoonchart, 2006; Horner, Andrade, Delva, Grogan-Kaylor, & Castillo, 2012; Power, 2012; Schierbeek, 1989). For instance, Mukangi's (2010) research on the role of birth order in substance use related disorders revealed that while the youngest child has a 33.3% likelihood of developing a substance use disorder, first and middle children have a 28.6% likelihood and single children have a 7.6% likelihood of doing so. In the current study, it was determined that single children are most likely to fall into substance abuse whereas second-born children are least likely. Children of such families may find themselves in a disadvantageous position because their parents are often unable to "say no" to them. Moreover, being center of interest in the family, parents behave childishly with their child and develop an understanding of discipline that takes into account the child by himself thereby causing the child to feel "like a fish out of water" due to the dissonance between home life and the outside world.

Being the center of the family, single children may develop the expectation of receiving the same level of attention that they receive at home from both their school and their friends. This intense expectation may cause such a child to remain on the outside, often changing friends or finding himself stuck in a single social clique. Such children may take great pains to keep their own friends, deprive themselves from others, and be inclined to fulfill their friends' requests without questioning whether they are right or wrong. In this case, it is thought that single children may are more inclined to use narcotic substances due to their desire for attention, acceptance, and approval from their friends.

The study's data were subject to a multiple linear regression analysis to determine the predictability of SAP in terms of gender and the presence of substance use in students and family members. Gender and family substance use explain 9% of students' proclivity toward substance abuse. The variables of gender, personal cigarette consumption, mother's cigarette consumption, and father's alcohol added to the model were found to add a meaningful contribution to the original model.

The study found that while high school students' scores measuring SAP significantly differ based on gender, type of high school, grade level, family income, and personal or family substance abuse, they do not significantly differ based on family type or sibling birth order.

Systematic educational programs can be offered to students beginning in middle school and emphasized during high school where they are made aware of the personal, physical, psychological, and legal repercussions and consequences of possession and use of narcotic substances, the characteristics of addictive substances and their hazards, withdrawal and poisoning syndrome.

In regard to psychological counseling and guidance services, providing students assertiveness training, channeling students' energies into sports activities, helping them to improve their communication skills, and developing psychological counseling and guidance programs to increase the level of social support students receive from their families, friends, and teachers can have a positive effect on reducing substance use.

In future studies, other socioeconomic variables (e.g., age, parental education status, social activities, and specific environmental factors) are in need of examination to further explain SAP. In addition, studies may be carried out to determine the differences between groups with low and high proclivities toward substance abuse.

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