
FAMILY, SCHOOL AND SPORTS (FEDE), THREE
AREAS IN THE LIVES OF STUDENTS IN THE
STATE OF JALISCO, MEXICO: ANALYSIS OF THE
USE OF LEISURE TIME AND THE USE OR ABUSE
OF DRUGS

FAMILIA, ESCUELA Y DEPORTE (FEDE), TRES
ÁREAS EN LA VIDA DE LOS ESTUDIANTES DEL
ESTADO DE JALISCO, MÉXICO: ANÁLISIS DE LA
RELACIÓN DEL USO DEL TIEMPO DE OCIO Y
DEL USO O ABUSO DE LAS DROGAS

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ABSTRACT

The State Council Against Addictions in Jalisco offers a great opportunity to initiate interventions that contribute to the prevention of drug abuse. These strategies should be designed and planned in response to addictive behavior epidemiological phenomenon. To define this behavior has conducted a statistical analysis tool t-Student test of the data collected in the *School Survey on Addictions in the State of Jalisco 2009*, with the aim of identifying the dimensions that most can support prevention of abuse in consumption youth drug Secondary Education and Higher Secondary Education in Jalisco, Mexico and identify variables free time use that promote and / or prevent abuse drugs. As a result of this detailed analysis shows that certain student activities during their leisure time have direct effects on the use and abuse of addictive substances and stand out above the rest those that involve spending time with the family, focusing on study and sport-related activities. Therefore planning drug prevention strategies in this population sector should seek to create common activities that allow young people to spend more time with the family shared, extracurricular activities and enable study mechanisms and places where they can play sports (Family, Education and Sport, FEDE for the acronym in spanish).

Keywords: Drugs, Prevention, School Survey, Statistical Analysis, Use of Spare Time.

RESUMEN

El Consejo Estatal contra las Adicciones en Jalisco (CECAJ) ofrece una gran oportunidad para iniciar las intervenciones que contribuyen a la prevención del consumo abusivo de drogas. Estas estrategias deben ser diseñadas y planificadas en respuesta al comportamiento epidemiológico del fenómeno adictivo. Se ha llevado a cabo un análisis estadístico con la herramienta *t* de Student de los datos recabado en la *Encuesta Escolar sobre Adicciones en el Estado de Jalisco 2009*, con el objetivo de identificar las dimensiones que más pueden favorecer la prevención del abuso en el consumo de drogas en los jóvenes de Educación Secundaria y Bachillerato de Jalisco, México e identificar las variables del uso del tiempo

libre que promueven y/o evitan el abuso en el consumo de drogas. Como resultado de este análisis pormenorizado se observa que ciertas actividades de los estudiantes durante su tiempo libre tienen efectos directos en el uso y abuso de sustancias adictivas y se destacan por encima del resto aquellas que implican compartir tiempo con la FAMILIA, las que se centran en el ESTUDIO y las actividades relacionadas con el DEPORTE. Por tanto la planificación de estrategias de prevención de drogas en este sector poblacional debe ir encaminada a crear actividades comunes que permitan a los jóvenes pasar más tiempo libre compartido con la familia, realizar actividades de estudio extraescolares y habilitar mecanismos y lugares donde se puedan practicar deportes (Familia, Educación y Deporte).

Palabras clave: Drogas, Prevención, Encuesta Escolar, Análisis Estadístico, Uso del Tiempo Libre.

BACKGROUND

Throughout its existence, the State Council Against Addictions in Jalisco (CECAJ, for the acronym in Spanish) has proposed to generate strategies that contribute to the prevention of abusive drug consumption, which is a factor that affects the health of Jalisco. Seeking to ensure that they are effective and promote good health, these strategies are designed and planned in response to the epidemiological behavior of the addictive phenomenon in the country and the State.

It is for this reason that the present document gives an account of the statistical analysis carried out, in order to establish actions to take in planning prevention strategies for drug consumption based on the School Survey on Addictions in the State of Jalisco (Chávez, Villatoro, Robles y Bretón, 2009). This was a survey carried out in 2009 under a State Government initiative through the State Council Against Addictions in Jalisco, in conjunction with the Mexican National Institute of Psychiatry "Ramón de la Fuente Muñiz" (INPRFM), the Jalisco Secretary of Education, through the Directorate of Psychopedagogy, and the University of Guadalajara, under the Directorate of Student Services.

The Survey demonstrates the prevalence of the use and abuse of addictive substances in male and female students in Middle and High School

education; a population which, due to its social, psychological, and developmental characteristics, is considered vulnerable to start using and abusing drugs.

Therefore, recognizing the importance of the data that this survey provided, it was decided to systematically analyze the results, in order to be in a position to indicate areas that could favor future preventative mechanisms in this population, bearing in mind the contextual conditions.

The study is guided by the pursuit of the following objectives:

1. Identify the factors that can best favor the prevention of abusive drug consumption in young people in Middle and High School Education.
2. Identify the variables in the use of spare time that promote and/or prevent abusive drug consumption.

RATIONALE

Abusive drug consumption is a phenomenon present in countries all over the world. Its physical, emotional, or social effects (such as illness, anxiety, or isolation) can not only adversely impact the health of substance abusers, but also those around them. In Mexico there is evidence that abusive drug consumption generates problems of a psychological, physical, and social nature, for example (El Informador, 2011):

In the past decade, as preliminary investigations into crimes related to narcotraffic increased, so too did the number of people who had tried drugs, according to official figures.

From 2000 to 2009, enquiries into crimes related to narcotraffic increased by 163.14%, from 24,095 to 63,404, according to the records of the Federal Jurisdiction's Criminal Incidents report, produced by the Executive Secretariat of the National Public Security System (in Spanish: *Secretariado Ejecutivo del Sistema Nacional de Seguridad Pública* [SESNSP]).

At the same time, and after comparing results from surveys on addiction in 1998 and 2008, the number of people who consumed illegal drugs at some time in their life went from 2.5 million to 4.2 million in 10 years, suggesting a 68 percent increase.

The phenomenon of the use and abuse of drugs (Table 1) is not just present in the adult population; it also manifests itself in the population of

children, adolescents, and young people, as shown in the School Survey on Addictions in the State of Jalisco 2009 (Chávez et al., 2009).

Tabla 1. Consumption in middle and high school students in Jalisco in 2009.

s= At some time in their life

Y= Within the past year

m= Within the past month

Ab= Abusive consumption (in terms of alcoholic beverages, having consumed five units or more on a single occasion in their life. A standard shot is the unit that measures the quantity of pure alcohol contained in a drink, generally equivalent to 12g of pure alcohol per unit)

Color key:

 = Consumption below the statistical average

 = Consumption within the statistical average

 = Consumption above the statistical average

Drug	ALCOHOL				TOBACCO			ANY DRUG			MEDICAL DRUGS			ILLEGAL DRUGS		
	s	Y	m	Ab	s	Y	m	s	Y	m	s	Y	m	s	Y	m
Mean	65.1	52.6	35.8	21	34.9	18.6	8.6	16.5	11.1	5.8	8.1	5.1	2.7	11.4	7.8	4.0
REGION I (COLOTLAN)					REG. I			REG. I			REG. I			REG. I		
REGION II LAGOS DE MORENO					REG. II			REG. II			REG. II			REG. II		
REGION III TEPATILÁN					REG. III			REG. III			REG. III			REG. III		
REGION IV LA BARCA					REG. IV			REG. IV			REG. IV			REG. IV		
REGION V TAMAZULA					REG. V			REG. V			REG. V			REG. V		
REGION VI ZAPOTLÁN EL GRANDE					REG. VI			REG. VI			REG. VI			REG. VI		
REGION VII AUTLÁN					REG. VII			REG. VII			REG. VII			REG. VII		
REGION VIII PUERTO VALLARTA					REG. VIII			REG. VIII			REG. VIII			REG. VIII		
REGION IX (AMECA)					REG. IX			REG. IX			REG. IX			REG. IX		
REGION X ZAPOPAN					REG. X			REG. X			REG. X			REG. X		
REGION XI (TONALA)					REG. XI			REG. XI			REG. XI			REG. XI		
REGION XII TLAQUEPAQUE					REG. XII			REG. XII			REG. XII			REG. XII		
REGION XIII GUADALAJARA					REG. XIII			REG. XIII			REG. XIII			REG. XIII		

Source: (Chávez et al., 2009)

For this reason it is imperative to draw up a plan of action with a solid and scientific base, in order to plan strategies for the prevention of abusive drug consumption which allows the consolidation of assertive, systematic, and appropriate strategies.

METHODS (TWO PARTS)

The paths (methods) are commonly devised and based on investigations that have been carried out beforehand, which create directions of research to generate new studies. This happens because:

Method is a passage, a prolonged trial of a way of thinking. It is a journey, a challenge, a crossing, a strategy that is studied in order to arrive at a conclusion which is thought out; imagined, and at the same time unusual, unforeseen, and distant. It is not the passage of self-confident thought; it is a pursuit that invents and continually remakes itself (Morin, Roger y Mota, 2003, 17).

Such is the case of this document, which, through a statistical analysis, seeks to suggest lines of action to take for the generation of strategies for prevention of abusive drug consumption. It is a study that is established based on the School Survey on Addictions in the State of Jalisco 2009, which establishes prevalence in drug use among the school community. What follows is a description of the methodologies employed in both studies.

METHODOLOGY EMPLOYED IN CARRYING OUT THE SCHOOL SURVEY ON ADDICTIONS IN THE STATE OF JALISCO 2009 (FIRST PATH)

The School Survey on Addictions in the State of Jalisco 2009 came about with the object of comparing with other studies the prevalence in the use of drugs in students; hence, the methodology employed in the Survey follows logical aspects present in measurements previously carried out on students at Middle and Secondary level education, the last one having been carried out in November 2006 in Mexico City by researchers from the National Institute of Psychiatry "Ramón de la Fuente Muñiz" (Villatoro et al., 2009). This method favored the comparison and assessment of tendencies in the consumption of alcohol, tobacco, and other drugs in the school population, as well as the detection of changes in the risk factors

associated with substance consumption. The objectives of the Survey are set out as follows:

General Objective:

Evaluate the prevalence of alcohol, tobacco, and other drug use, as well as consumption tendencies in the Middle and High school student population.

Specific Objectives:

- Obtain knowledge of the distribution of the use of drugs, alcohol, and tobacco in the Middle and High School student population.
- Evaluate the relationship between risk factors and environmental, interpersonal, familial, and personal protection with experimental, constant, and problematic use of drugs, alcohol, and tobacco.
- Develop and evaluate models for prediction of drug, alcohol, and tobacco consumption, with the object of influencing the performance of prevention programs.
- Provide feedback to the health and education sectors, with a view to developing and strengthening preventative measures for the use of drugs, alcohol, and tobacco.

Subjects and sampling frame

The sample for the survey was made up of students from various public and private schools in the State of Jalisco, enrolled in the 2008-2009 academic year. Two study domains were observed for analysis:

1. Male and female students in Middle School (Table 2).
2. Male and female students in High School (Table 3).

Table 2. For Middle School the distribution of the corresponding sample.

Middle School	Men		Women		Total	
	N Sample	N Population	N Sample	N Population	N Sample	N Population
Colotlán	286	2,425	315	2,314	601	4,739
Lagos de Moreno	336	9,758	358	10,163	694	19,921
Tepatitlán	389	8,840	419	9,606	808	18,446
La Barca	378	12,463	379	12,478	757	24,941
Tamazula	358	2,758	326	2,985	684	5,743
Ciudad Guzmán	367	8,776	367	9,012	734	17,788
Autlán	414	7,514	457	7,748	871	15,262
Puerto Vallarta	330	9,208	331	9,358	661	18,566
Ameca	366	9,695	360	9,653	726	19,348
Zapopan	379	31,249	297	29,949	676	61,198
Tonalá	322	16,068	340	16,307	662	32,375
Tlaquepaque	404	23,795	366	22,408	770	46,203
Guadalajara	350	44,131	364	46,102	714	90,233
Subtotal	4,679	186,680	4,679	188,083	9,358	374,763

Source: (Chávez, 2009).

Table 3. Sample distribution in the High School level population

High School	Men		Women		Total	
	N Sample	N Population	N Sample	N Population	N Sample	N Population
Colotlán	519	687	657	962	1,176	1,649
Lagos de Moreno	595	1,178	897	1,635	1,492	2,813
Tepatitlán	626	2,107	812	2,965	1,438	5,072
La Barca	501	3,444	615	4,170	1,116	7,614
Tamazula	452	646	564	849	1,016	1,495
Ciudad Guzmán	639	2,139	742	2,744	1,381	4,883
Autlán	704	3,376	795	4,012	1,499	7,388
Puerto Vallarta	685	1,287	821	1,619	1,506	2,906

Ameca	621	2,928	733	3,703	1,354	6,631
Zapopan	480	11,746	618	14,076	1,098	25,822
Tonalá	657	3,711	762	4,514	1,419	8,225
Tlaquepaque	673	1,152	778	1,682	1,451	2,834
Guadalajara	627	13,226	745	16,619	1,372	29,845
Subtotal	7,779	47,627	9,539	59,550	17,318	107,177
Total	12,458	234,307	14,218	247,633	26,676	481,940

Source: (Chávez, 2009).

With respect to previous lines of investigation, as in the case of Villatoro, the sample of students was taken based on the official records of the educational community of the two study domains. The Universe of study had a total population of 481,940 students (The universe of study means all the population, which will be studied, but the sampling techniques allow us the possibility that not interview all individuals of the universe), from which a sample was taken that included 26,676 cases which projected the valuation of tendencies of drug use among students, and indicated the level that each region contributes towards the problem.

The elements that were considered to determine the sample size of the Survey were the positioning of drugs use by gender, age group, and later on the school level of the students and lapse in dedication to studies. A stratified probability sampling technique was used, as it allowed the division of the population into strata and the selection of a sample for each stratum. Furthermore, the stratification of the study population increases the accuracy of the sample, and allows preliminary deliberation of the different sample sizes, according to the requirements of each stratum, with the intention of reducing the variation of each unit in the average of the sample (Hernández, Fernández y Baptista, 2010).

As in surveys carried out in 2003 (Villatoro et al. 2005) and 2006 (Villatoro et al., 2009), the coefficients of variation (CV) in the use of marijuana, cocaine, and inhaled drugs were shown to have a design effect of 2, and with these parameters a non-response rate of 20% was noted, similar to that discovered by previous studies. Therefore the level of confidence in the sample was 95%, giving an average absolute error of 0.004, and the lowest prevalence considered was 2%.

In the absence of a formula for the sample size in the official documents

of the School Survey (Chávez et al., 2009), this has been reconstructed as follows (Kish, 1982; Lohr, 2000):

$$n_{mas} = \frac{Z_{\alpha/2}^2 CV^2(y)}{\varepsilon^2 + \frac{Z_{\alpha/2}^2 CV^2(y)}{N}} \quad \therefore$$

$$n = \frac{(Deff)(n_{mas})}{1 - TNR}$$

n=Sample size
 n_{mas} =Sample size from a Simple Random Sampling
 $Z_{\alpha/2}^2=1.96$ =Valor de la abscisa en una prueba de dos colas=95% confianza
 ε =Statistical error=0.004
 $CV(y)$ =Coefficient of Variation
 N = Size of the Group
 $Deff$ =Design Effect=2
 TNR =Non Response Rate =20%

Regarding the accuracy of the estimations, the calculation of the confidence intervals of the true value of prevalence in the Survey was performed using version 9.0 of the STATA statistical analysis program (Villatoro et al., 2009). The option chosen was for complex samples with the group number as the primary sampling unit, given that this form of analysis allows for smaller intervals in relation to those employed in previous investigations in 2000 (Villatoro et al., 2005; Villatoro et al., 2009). Even when the method of analysis has changed, a comparison is possible because any comparison can be made with prevalence, which is why the confidence interval was used with the aim of identifying whether or not there had been a representative change. The consumption of each drug is also appended; the intervals are limited to the legal, illegal, or medical use of any drug; the use of any illegal drug; the use of any medical drug; and alcohol abuse.

INSTRUMENT

The instrument used to carry out the Survey; the questionnaire, is used constantly to obtain data on the unit of analysis of an object of study (Bernal, 2010). It is defined as "a set of questions related to one or more variables" (Hernández, Fernández y Baptista, 2010, 263), and it is preferred because it allows reference to be made to the personal information, knowledge, ideas or opinions held by people about a specific topic (Pérez, 2004); in this case, the school age community's thoughts with respect to their experience of drug consumption.

The questionnaire acts as a reflection or translation of the assumptions, beliefs, models, or starting awareness used by subjects in order to explain

reality from their own conceptual framework (Galindo, 1998); in the case of this Survey, the questionnaire was standardized, as it had already been used and validated previously (Villatoro et al., 2009). In Jalisco (Chávez et al., 2009) seven indicators are included and are shown in Table 4.

Table 4. Definitions of sections in the survey.

SECTION	INDICATORS
Socio-demographic information	Questions regarding gender, age, school year, time spent on study, if they have held a paid job, and the education level of the head of the family.
Tobacco, alcohol and drug consumption	Questions on the most common drugs to study: amphetamines, tranquilizers, marijuana, cocaine, crack, hallucinogens, inhalants, methamphetamines, heroine, and sedatives. Key aspects questioned for each drug were: use at some time during their life, use within the past two months, use and frequency of use within the past 30 days (prevalence), number of times and how often they had used the drug (incidence). Also questioned were the circumstances surrounding the start of consumption, such as the age of the subject, where they got it, and the person who sold it to them. Furthermore, in the case of alcohol, they were questioned about the occasions of consumption, the prevalence at some time in their lives, within the past year, and within the past month. Also questioned were the frequency of consuming five units or more, and the frequency of drunkenness, as well as indicators of problematic consumption measured with the AUDIT Scale (Alcohol Use Disorders Identification Test) (11).
Problems related to drug consumption	Problems on risk behaviors that have a direct relation to drug consumption.
Antisocial behavior	The frequency with which the student had committed delinquent acts, such as taking money, hitting people, and stealing cars was investigated.
Social environment	Questions on the social tolerance, availability, and risk perception of drug, alcohol, and tobacco consumption, as well as the social disorganization (delinquency and violence) perceived by the subject in the area in which they live.

Interpersonal environment	Questions on the subject's family composition and the parenting styles present in the family. This section contributes a greater understanding of the family aspect and its relation to drug consumption. Its validity, reliability, and adequacy for the school-age population have already been proven. Furthermore, questions were asked on drug consumption and problems with alcohol within the family. In terms of the peer group, questions were included on the consumption of drugs and alcohol by friends of the interviewee in different contexts.
Personal environment	Questions on whether or not they had finished studying, their level of self esteem, stress levels, whether they had attempted suicide, and whether they had suffered sexual abuse.

Source: (Chávez, 2009).

METHODOLOGY EMPLOYED IN CARRYING OUT STATISTICAL ANALYSIS IN ORDER TO GENERATE STRATEGIES THAT HELP IN THE PREVENTION OF ABUSIVE DRUG CONSUMPTION (SECOND PATH)

As a starting point, the School Survey (Chávez, Villatoro, Robles y Bretón, 2009) allows knowledge of the trends in alcohol, tobacco, and other drug consumption in the student population, and reading it led to forming the following research questions:

What are the factors that can best favor the formation of strategies for the prevention of abusive drug consumption in young people in Middle and High School Education?

What is the possible influence of the use of spare time in making decisions about using, abusing, or abstaining from drugs?

Derived from the questions was analyzed from the School Survey, drawing from this its database.

STUDENT'S T DISTRIBUTION AS A STATISTICAL TOOL FOR DATA ANALYSIS

The survey data was analyzed in relation to the use of spare time, a factor that draws attention because of its possible influence over the choice to use, abuse, or abstain from drugs. Later, on a local level, the data was analyzed in relation to being in a position to suggest factors that can guide the planning of strategies for addiction prevention and health promotion.

Unlike the resource used for Survey data, the SPSS (*Statistical Package for Social Sciences*) program version 17.0 was used for this study, which is useful for carrying out descriptive and/or predictive statistical analysis through accessing, management, preparation, and analysis of data. This makes it feasible to find a correlation between the use of spare time and the consumption of drugs.

Determining the type of test feasible for the study was guided by the *F* (*Fisher*) test, a signification test that contrasts an *F*-tabulated statistic (Serrano, 2003)

In accordance with the (Pagano, 2009) design of independent groups, experiments are included in which two or more conditions are used. The *Student's t* test is used to determine the differences between two averages in the sample.

The *t* test is useful (Moncada, 2006; González y Pérez, 2009) for evaluating hypotheses in terms of a method.

CONTEXT OF THE PROBLEM

The most commonly used drug in Mexican youth is alcohol, this should be taken into consideration, because the majority of students both in Middle and High School are underage minors, which means that their physical, psychological, and social development are put at risk, increasing the possibility of developing illness and injury, given that alcohol consumption is strongly related to the presence of more than 60 types of illness and injury (Monteiro, 2007,1): *...ranging from those that are the result of excessive consumption of alcohol during pregnancy and which affect the fetus, to intentional and non-intentional injuries, cancers, cardiovascular disorders, liver diseases, and neuropsychiatric conditions, including dependency...Its consumption affects the consumer themselves and those around them, due to its association with domestic violence, fatal traffic accidents (both for passengers and the driver), and interpersonal violence. The harmful consumption of alcohol is also related to social and economic problems, with individuals, families, and the community.*

The phenomenon occurs despite Article 2 of the Law Regulating Sales and consumption of Alcoholic Beverages in the State of Jalisco (Gobierno del Estado de Jalisco, 2006) indicating that:

1. It is in the interests of the State to fight against excessive consumption of alcoholic beverages.
2. The sale of alcoholic beverages to those under the age of eighteen is prohibited in the State of Jalisco.

People under 18 years of age are affected because after this age in Mexico they are considered to be adult citizens of Mexico (Diario Oficial de la Federación, 2012), granting them all the rights and obligations provided by law, among them the decision of whether or not to consume alcohol. The majority of young students who were surveyed were still underage minors; specifically, persons who were still at a stage of adolescent development, defined by UNICEF as the transformations in cognitive, emotional, sexual, social, and psychological characteristics that take place during adolescence, which demand the responsible support of adults in the home, at school, in Government Institutions, and in communities. The socially and culturally established conceptions, images, critiques and taboos towards adolescents can counteract the provision of information and the possibility of participation-construction of healthy environments. It is a global task to enable or take the opportunity to develop the resources and knowledge for people to protect themselves against various psychosocial risks, given that for many *"this knowledge arrives too late, if it arrives at all, when the course of their lives has already been decided and their development and wellbeing has been ruined"* (Fondo de las Naciones Unidas para la Infancia, 2011, 6) which has even more relevance when taking into account that the earliest ages for starting drug consumption in Jalisco is between 10 and 14 years (Secretaría de Salud, 2009).

Moreover, at a global level it is estimated that 7% of adolescent females and 12% of adolescent males smoke tobacco (World Health Organization, 2010), this puts them at risk not only due to their developmental stage, but also because it increases the likelihood of death as a result of their consumption, given that it is thought that more than 5 million people around the world die due to tobacco consumption, a million of those in the Americas, and above all in countries at the same economic level as Mexico. Passive smoking also causes some 600.000 premature deaths (World Health Organization, 2009).

The illegal drug to which the population of Mexico is most exposed. As the years have passed its consumption has increased; worryingly, half of

marijuana consumers begin their consumption while they are underage (Secretaría de Salud, 2009), an age at which the majority of students are found in Middle and High School Education. The consumption of marijuana or its derivatives to which this percentage of students is exposed can cause primary effects such as a feeling of relaxation, calm, and sleepiness, understood as *the heaviness and dulling of the senses caused by sleep and a lack of activity* (Real Academia Española, s.f.), but it can also diminish motor reflexes and balance, thereby increasing the likelihood of suffering or causing accidents, because their reaction abilities are altered. Further effects could be dry mouth, lips, and throat, accelerated heart rate, as well as alterations in the sense of time, distance and judgment, which causes disorientation. Finally, one of its specific effects is the reddening of the eyes.

If marijuana consumption later becomes a habit in students, it can cause low academic achievement, as it produces changes in personality and disorders of psychological processes that are important for learning, such as memory. It can sometimes cause feelings of persecution, panic, and hallucinations of sight, sound, taste, smell, and touch. Long-term consumption can cause a deterioration of the airways, with effects ranging from catarrh to emphysema, bronchitis, and an increased risk of cancer of the tongue, mouth, larynx, and lungs (Consejo Nacional contra las Adicciones, s.f.).

The cocaine which is the illegal drug with the second highest consumption by the Mexican population (Consejo Nacional contra las Adicciones, 2009). It is important to note that 36.4% of people who consume cocaine in the country start to do so while still underage; a factor which increases the risk of dependency as well as vulnerability to consequences from consumption, an especially smoked derivative of cocaine, also known as base cocaine or rock (alkaline salt). The term "*crack comes from the sound the compound makes when heated*" (Organización Mundial de la Salud, 2008, 24). It comes in the form of white splinters or stones, and it causes the same effects as cocaine, but more rapidly and for shorter periods, which increases its risk and potential for addiction (Velasco Fernández, 2008). A quarter of cocaine users consume crack (Consejo Nacional Contra las Adicciones, 2009).

Inhalants are substances of chemical and industrial origin breathed in through the respiratory system, as in the case of glues, paint thinner,

gasoline, paints, some analgesics in a gaseous state such as ethylene and nitrous oxide, or volatile liquids like ether, chloroform, flouroxene, and halothane, which are used by doctors to anaesthetize or manage pain (Consejo Nacional contra las Adicciones, s.f.). To quote the System for Epidemiological Vigilance of Addictions in Jalisco (in Spanish: *Sistema de Vigilancia Epidemiológica de las Adicciones en Jalisco* [SISVEA]) (Chávez, 2008), for 6.5% of drug consumers, inhalants are the first substance they come into contact with, making them the drug of the fifth highest consumption in Jalisco after alcohol, marijuana, cocaine, and tobacco. Furthermore, together with sedatives, marijuana, and methamphetamines, inhalants form part of the 'early start' group of drugs; that is, those that are most often started in adolescence.

Tranquillizers (Organización Mundial de la Salud, 2008) are medications that have a calming effect. They are generally a group of medicines used in the treatment of various mental disorders. Tranquillizers principally affect people's psychomotive processes; they only alter consciousness or thought when ingested in high doses.

CURRENT STATE

Lapses of time available are considered to be spare time, as opposed to time spent meeting obligations, working, and on activities that cover necessary basics such as dressing, eating, or living arrangements. In spare time, voluntary and gratifying activities are carried out (Victoria, 1995), it is possible for this time to fall vulnerable to actions that put the health of young people at risk, such as abusive drug consumption, which, through promotion, publicity, or social distribution has become an object of consumption associated with recreational, fun, or pleasurable activities, or as an escape from daily commitments.

Below are referenced research papers have addressed the subject matter of this document, realizing the possible relationship between the use of leisure time and the use, abuse or drug use prevention.

García del Castillo y López-Sánchez (2005) explore some of the reasons why young people use drugs in their spare time could be, the six main reasons for consumption are:

1. Exclusion or few alternatives for spare or leisure time that encoura-

ge health and recreation

2. Inequalities in social, health, educational, economic spheres, and of opportunity
3. Reduced regulatory framework for the advertisement, consumption, and sale of legal and illegal drugs
4. Drugs as an element of integration with peer group
5. Little or no opportunity for decision, construction, or opinion on recreational activities and spare time
6. Loose coordination between administrations, institutions, and sectors in addressing the needs of young people

Focused on prevention, Espínola, Cangas and Iribarne (2011) present an investigation where they build and apply three-dimensional virtual environments as a tool for early detection of drug consumption behaviors, bullying and mental disorders in school settings, family and leisure in secondary school students. The program called Mii-School, realistically recreates the contexts of drug use, bullying and difficulties in family relationships that usually occur during adolescence. The Mii-School consists of seventeen scenarios where various characters interacting provoke conflict situations, the participant must choose how to deal with these.

Also, Expósito, Garcia-Moreno, Sanhueza y Angulo (2009) perform an analysis of leisure activities in first year students of the Faculty of Education in relation to possible behavioral effects associated with alcohol consumption during the weekend. They do so from a questionnaire to 705. They found that higher alcohol consumption in the weekend, there is an increase in the percentage of smokers, illegal drug users, memory complaints and difficulty waking up, also detect changes in some attitudes and emotional reactions.

With an interest similar to Moral y Ovejero (2009) in their study found relationship further experimentation of alcohol and snuff, and to a lesser extent other drugs with youth leisure patterns characterized by overactivation, linking group and hedonic satisfaction in practices of recreational culture. Their study is exploratory secondary school students aged between twelve and eighteen. Your goal is to build a unique profile of consumption based on age levels. In their findings show a trend of consumption with higher weekend rate habituation and experimentation at higher levels.

In a study that used a bivariate analysis, which consisted of two phases,

the first phase in a survey on social perception of drug to 147 people, and in the second phase was applied to 610 people. Toratajada et al. (2008), guided by the objective of obtaining information on drug use in relation to leisure habits and knowledge of community resources for the prevention of addiction in Latin American immigrant population in Spain, found 40.1% consume alcohol on a regular basis, that 31.3% consumed snuff and 3.4% marijuana and that the main reason for ordinary consumers is to have fun. Existing relationship between leisure habits and drug use. Distinguished addition to the family has a role in prevention.

Meanwhile, Dos Santos y Machado (2007) conducted research with secondary school students between fourteen and twenty years old, in Brazil. In the study, the objective is to understand leisure activities of adolescents who use drugs and those who use them, used a questionnaire that allowed them to know that the main attractions who use drugs are assisting clubs and beaches, hanging out with friends, and going to bars, however, the most common leisure activities in who are not using drugs, attendance at religious services, playing sports and hanging out with family.

In alignment with this, Rodríguez (2005) conducted research in order to describe and categorize the types of leisure aged 15 and 30 years of age and their relationships with different drug consumption. The study was conducted using a household survey of 3000 people in the community of Castilla-La Mancha, Spain, also had 12 groups designed strata based on age, sex and size of the municipality. In the study, based on their characteristics and use of leisure time, young people were grouped in four different styles, Traditional, cyber, cultural and enjoyers, which are then compared with the patterns of drug use in the past twelve months. The result found that all types of young people have intakes in all substances covered. And regarding the characteristics studied in relation to leisure, there are important nuances between types. This differential dimension verifies that there are certain factors that favor the presence of consumption. One of them, pointing to the lower age groups.

Tapia-Conyer, Cravioto, De la Rosa, Galván y Medina-Mora (2003), in the city of Chihuahua (Mexico), interviewed 225 cocaine users over 14, 150 of the subjects selected by a non-probabilistic sampling shares in rehabilitation centers, the other 75 incorporated via the snowball method in high-risk areas. Among its main findings found that 99% had

a previous history of drug use, mainly snuff, alcohol and marijuana. Moreover, the average age of first drug use was 12.5 years in age, 61% entered the fifth drug cocaine, smoking initiation of this was on average 21 years of age associated circle of friends, celebrations, and leisure. So they concluded that cocaine use incorporate it more those starting with alcohol and snuff that those who do with marijuana. The onset of drug use at an early age, so that prevention strategies should consider that peer pressure and friends on holiday and leisure environments play an important role in the first contact with cocaine.

Through the review of data from different studies, Agulló, Agulló y Rodríguez (2003) performed an analysis of the evolution of leisure in youth, focusing on attitudinal changes and the emergence of new recreational activities. They observed a change in the concept of youth, which includes a sector increasingly broader and heterogeneous population, however, noted that the youth leisure tends to progressive homogenization as both activities at the site, especially the end week, considering that this form of entertainment is closely associated with a substantial consumption of alcohol and other illegal drugs, attributing a value socializing.

Paniagua, García, Castellanos, Sarrallé y Redondo (2001) in order to know the age of contact with snuff, alcohol and illegal among adolescents, their use and their relationships with the environment and living habits conducted a descriptive cross-sectional study, where 2.178 surveyed adolescents 12 to 16 years old in Cantabria, Spain. They found that 69.2% have tried alcohol and 37% are drinkers, of that percentage, 92.9% drink at weekends, where friends with the family and 54.1% with 16.4% are the pioneers in this habit. Consumption is associated with older age, environment and consumer entertainment given pattern. The logistic regression analysis allowed to identify the account of snuff and alcohol abuse is a protective factor for consumption are risk factors and other drugs, get drunk and have a consumer environment thereof. They conclude that early adolescents have a contact and a disturbing snuff consumption, alcohol and illegal drugs and the environment and living habits are related to these risk behaviors.

RESULTS

When the variable of (occasional or frequent) drug consumption was related to the use of spare time, it was shown that playing sports was a factor that contributed to avoiding drug consumption. In respect of what is inferred in terms of alcohol, 57.2% of students have tried alcohol, even though they do not go out to drink with their friends. 80.3% of students confirmed having consumed alcohol and also going out to drink it with their friends. This consumption places alcohol as the drug of highest consumption and excessive episodic consumption (Chávez, Villatoro, Robles y Bretón, 2009; Monteiro, 2007) in young people.

When a contrast is made between the answer to the question “how do you use your spare time?” and the percentage that consume alcohol in Table 5, it is found that out of the students that do not play sports, 74.2% advised having consumed alcohol. With a difference of 11.9%, out of those who play sports only 62.4% reported having consumed alcohol, then we can say that playing sports makes a difference to avoid alcohol, however, the point estimates could be misleading and therefore intends to use the *t*-student to know whether there is a significant difference and also the *t*-Student value as a parameter, the force with which the significance is measured. The Table 5 gives several interesting examples to understand the scope of using the value of the *t*-Student, for example, students who go out for walks with their family, 62.1% advised having consumed alcohol and students who don't go out for walks with their family, 71.4% reported having consumed alcohol, the difference is 9.3%; students who do homework or study, 62.8% advised having consumed alcohol and students who don't homework or study, 74.7% reported having consumed alcohol, the difference is 11.9%. Ostensibly, doing homework or study is better than going out for walks with my family to prevent the consumption of alcohol, but the *t*-Student, show us that there are some variations that they're not detected in the estimators, thereby, with the *t*-Student test, we can differentiate beyond descriptive estimates. Finally we can assume that, is better going out for walks with my family than doing homework or study to prevent the consumption of alcohol, because the *t*-Student value is 29.338 for going out for walks with my family and 29.316 is the value of the *t*-Student for doing homework or

study to prevent the consumption of alcohol.

The significance p , is a variable to not take too seriously, as they invariably for this particular case, when the value of the t -Student exceeds 2.56, the value is significant and converges to 0.0000, also does not allow us to differentiate whether significant value is positive or negative, that is why we consider only the t -Student in the analysis.

Table 5. Table of analysis of alcohol vs. use of spare time with t -Student.

No.	Use of Spare Time	Yes	No	t -Student	p
1	I play a sport	62.4%	74.2%	33.483	0.0000
2	I go out for walks with my family	62.1%	71.4%	29.338	0.0000
3	I do homework or study	62.8%	74.7%	29.316	0.0000
4	I play Nintendo, Xbox, or Playstation	62.1%	67.0%	17.865	0.0000
5	I watch television at home	63.4%	73.1%	15.921	0.0000
6	I help with housework	63.3%	70.0%	15.609	0.0000
7	Other (specify)	60.5%	64.5%	13.685	0.0000
8	I attend art classes	62.2%	65.3%	11.414	0.0000
9	I play on "slot machines" or arcade games	62.1%	65.2%	11.182	0.0000
10	I do nothing; I'm bored	65.4%	63.2%	-7.922	0.0000
11	I play or go out with my friends	64.5%	59.2%	-11.787	0.0000
12	I go to the movies	65.8%	60.6%	-18.460	0.0000
13	I go to parties	65.9%	57.3%	-25.921	0.0000
14	I listen to music	65.1%	49.7%	-26.514	0.0000
15	I talk on the phone	67.0%	56.1%	-35.637	0.0000
16	I go to drink alcohol with my friends	80.3%	57.2%	-88.304	0.0000

Smoking tabaco which is a figure that is reflected in the students surveyed in Jalisco (Chávez, Villatoro, Robles y Bretón, 2009), where tobacco was the drug of second highest consumption. This outlook invited an analysis of the relation between tobacco consumption and sports, and it was found that tobacco consumption is a possible factor that influences an absence of playing sports. There was a difference of 12 percentage

points between the answers, in such a way that 45.1% of students who smoked did not play sports, and 32.5% did, according to Table 6. It should be noted that the variable that most strongly indicated the prevention of tobacco consumption was helping with housework.

Table 6. Table of analysis of tobacco vs. use of spare time with *t*-Student.

No.	Use of Spare Time	Yes	No	<i>t</i> -Student	ρ
1	I help with housework	32.3%	54.4%	48.087	0.0000
2	I go out for walks with my family	31.4%	45.4%	41.051	0.0000
3	I do homework or study	32.7%	51.5%	40.955	0.0000
4	I watch television at home	33.3%	55.3%	32.398	0.0000
5	I play a sport	32.5%	45.1%	31.973	0.0000
6	I attend art classes	31.8%	36.1%	15.968	0.0000
7	I play or go out with my friends	34.4%	35.5%	2.550	0.0108
8	I listen to music	34.3%	35.7%	2.528	0.0115
9	I play Nintendo, Xbox, or Playstation	34.4%	34.6%	0.800	0.4239
10	I go to parties	34.6%	34.0%	-1.938	0.0526
11	Other (specify)	34.4%	33.8%	-1.941	0.0523
12	I talk on the phone	35.0%	32.3%	-8.976	0.0000
13	I go to the movies	35.3%	32.8%	-9.075	0.0000
14	I play on "slot machines" or arcade games	37.5%	32.8%	-17.128	0.0000
15	I do nothing; I'm bored	37.5%	32.1%	-20.077	0.0000
16	I go to drink alcohol with my friends	53.3%	26.2%	-92.384	0.0000

Some students in the Survey advised smoking marijuana, it was found that the activities that most contributed to avoiding the consumption of this drug were those related to academia and family life, as demonstrated in Table 7.

Table 7. Table of analysis of marijuana vs. use of spare time with *t*-Student.

No.	Use of Spare Time	Yes	No	<i>t</i> -Student	<i>p</i>
1	I do homework or study	5.5%	13.6%	26.379	0.0000
2	I help with housework	5.5%	13.1%	25.062	0.0000
3	I go out for walks with my family	5.2%	9.5%	22.165	0.0000
4	I talk on the phone	5.4%	7.6%	13.894	0.0000
5	I play Nintendo, Xbox, or Playstation	5.4%	7.4%	13.649	0.0000
6	I watch television at home	5.9%	11.8%	13.646	0.0000
7	I play a sport	5.7%	8.5%	12.583	0.0000
8	Other (specify)	5.1%	6.0%	6.565	0.0000
9	I listen to music	6.1%	6.2%	0.415	0.6778
10	I do nothing; I'm bored	6.4%	5.8%	-4.342	0.0000
11	I play or go out with my friends	6.4%	5.4%	-4.641	0.0000
12	I go to parties	6.3%	5.3%	-7.005	0.0000
13	I attend art classes	7.0%	5.4%	-11.143	0.0000
14	I go to the movies	6.8%	4.8%	-15.066	0.0000
15	I play on "slot machines" or arcade games	7.5%	5.2%	-16.085	0.0000
16	I go to drink alcohol with my friends	13.0%	3.4%	-52.828	0.0000

In the Survey (Chávez, Villatoro, Robles y Bretón, 2009), 6.2% of students advised that they had consumed marijuana at some time in their lives, 4.3% had consumed it at some time during the past year, and 2.0% within the past month.

Another drug analyzed in relation to the use of spare time was cocaine, in the Survey (Chávez, Villatoro, Robles y Bretón, 2009), 2.9% of the population had consumed cocaine at least once in their lives, 1.7% within the past year, and 0.7% within the past month. 1.2% advised that at some time in their lives they had consumed crack. As shown in Table 8, academic and family activities such as taking walks and watching television are actions that can favor the prevention of cocaine consumption. In contrast, going out to drink with friends makes students vulnerable to its consumption.

Table 8. Table of analysis of cocaine vs. use of spare time with *t*-Student.

No.	Use of Spare Time	Yes	No	<i>t</i> -Student	<i>p</i>
1	I do homework or study	2.3%	7.8%	22.905	0.0000
2	I go out for walks with my family	2.2%	4.8%	18.855	0.0000
3	I watch television at home	2.4%	9.7%	18.205	0.0000
4	I talk on the phone	2.1%	4.2%	17.397	0.0000
5	I help with housework	2.5%	6.1%	16.801	0.0000
6	I play a sport	2.4%	5.0%	15.905	0.0000
7	I listen to music	2.6%	7.0%	15.076	0.0000
8	I play Nintendo, Xbox, or Playstation	2.6%	3.1%	5.163	0.0000
9	I play or go out with my friends	2.8%	3.2%	2.258	0.0240
10	Other (specify)	2.8%	2.9%	0.878	0.3800
11	I do nothing; I'm bored	2.7%	2.8%	0.361	0.7182
12	I go to parties	2.9%	2.6%	-2.548	0.0108
13	I go to the movies	3.1%	2.4%	-7.499	0.0000
14	I attend art classes	3.2%	2.4%	-8.690	0.0000
15	I play on "slot machines" or arcade games	3.5%	2.5%	-10.447	0.0000
16	I go to drink alcohol with my friends	5.5%	1.7%	-30.924	0.0000

As such, 5.5% of young people and adolescent students in Jalisco have tried them at least once in their lives (Chávez, Villatoro, Robles y Bretón, 2009), 3.5% advised having taken them once in the past year, and 1.8% of those surveyed advised consuming them within the past month.

According to results of the analysis in Table 9, the options that can avoid the consumption of inhalants could be activities related to family life, followed by academic activities. Drinking alcohol with friends and going to places where there are videogames could cause risk of consumption.

Table 9. Table of analysis of inhalants vs. use of spare time with *t*-Student.

No.	Use of Spare Time	Yes	No	<i>t</i> -Student	<i>p</i>
1	I go out for walks with my family	4.9%	9.0%	21.380	0.0000
2	I help with housework	5.2%	11.1%	20.727	0.0000
3	I do homework or study	5.4%	9.4%	15.263	0.0000
4	I talk on the phone	5.4%	7.0%	10.625	0.0000
5	I play a sport	5.7%	6.6%	4.908	0.0000
6	I watch television at home	5.7%	7.3%	4.576	0.0000
7	Other (specify)	5.2%	5.7%	4.115	0.0000
8	I play Nintendo, Xbox, or Playstation	5.8%	5.9%	1.010	0.3126
9	I play or go out with my friends	5.7%	5.5%	-0.676	0.4993
10	I do nothing; I'm bored	6.0%	5.7%	-1.900	0.0574
11	I attend art classes	5.8%	5.6%	-2.084	0.0372
12	I go to parties	6.0%	4.4%	-11.219	0.0000
13	I listen to music	5.8%	3.2%	-12.733	0.0000
14	I go to the movies	6.4%	4.3%	-16.697	0.0000
15	I play on "slot machines" or arcade games	7.3%	4.6%	-19.972	0.0000
16	I go to drink alcohol with my friends	10.1%	4.0%	-36.538	0.0000

These medicines have the potential to be addictive. According to the Survey (Chávez, Villatoro, Robles y Bretón, 2009), 5.5% of young people have taken tranquillizers at some time in their lives, 3.7% advised having taken them within the past year, and 1.9% expressed having consumed them within the past month.

In the case of tranquillizers, the statistical analysis in Table 10 identified family walks as the primary factor in the prevention of consumption, followed by playing a sport, and finally, completing homework. The activity most associated with the consumption of tranquillizers was going out to drink alcohol with friends.

Table 10. Table of analysis of tranquillizers vs. use of spare time with *t*-Student.

No.	Use of Spare Time	Yes	No	<i>t</i> -Student	<i>p</i>
1	I go out for walks with my family	4.6%	10.0%	27.437	0.0000
2	I play a sport	4.9%	10.3%	23.366	0.0000
3	I do homework or study	5.3%	10.8%	19.432	0.0000
4	I play Nintendo, Xbox, or Playstation	4.8%	7.4%	18.486	0.0000
5	I help with housework	5.3%	9.4%	15.520	0.0000
6	I watch television at home	5.6%	7.7%	5.705	0.0000
7	I play or go out with my friends	5.7%	6.7%	4.693	0.0000
8	I play on "slot machines" or arcade games	5.6%	5.8%	1.849	0.0644
9	I go to parties	5.7%	5.9%	1.641	0.1007
10	Other (specify)	5.8%	5.3%	-3.286	0.0010
11	I attend art classes	6.0%	5.4%	-4.560	0.0000
12	I go to the movies	6.0%	5.2%	-6.598	0.0000
13	I talk on the phone	5.9%	4.9%	-6.894	0.0000
14	I do nothing; I'm bored	6.5%	5.0%	-11.564	0.0000
15	I listen to music	6.0%	3.2%	-13.372	0.0000
16	I go to drink alcohol with my friends	8.8%	4.7%	-25.213	0.0000

Through the results of the analysis, it can be seen that the five activities that can most contribute to avoiding or preventing the consumption of drugs (not including alcohol and tobacco) are: helping with housework, going for walks with the family, academic activities, watching television at home, and playing a sport (Table 11).

Table 11. Table of drugs in general, not including Tobacco and Alcohol, vs. use of spare time with *t*-Student.

No.	Use of Spare Time	Yes	No	<i>t</i> -Student	<i>p</i>
1	I help with housework	15.9%	30.6%	35.223	0.0000
2	I go out for walks with my family	15.4%	24.8%	32.678	0.0000
3	I do homework or study	16.2%	28.7%	30.324	0.0000

4	I watch television at home	16.9%	28.2%	18.548	0.0000
5	I play a sport	16.6%	21.9%	16.470	0.0000
6	I play Nintendo, Xbox, or Playstation	16.5%	19.1%	11.899	0.0000
7	I talk on the phone	17.0%	17.7%	2.888	0.0039
8	I play or go out with my friends	17.3%	17.4%	0.331	0.7406
9	Other (specify)	17.3%	16.4%	-4.032	0.0001
10	I listen to music	17.5%	14.3%	-7.815	0.0000
11	I do nothing; I'm bored	18.4%	16.4%	-9.397	0.0000
12	I go to parties	17.8%	15.3%	-9.972	0.0000
13	I attend art classes	18.5%	16.2%	-11.091	0.0000
14	I play on "slot machines" or arcade games	19.5%	16.1%	-15.430	0.0000
15	I go to the movies	19.4%	13.5%	-28.530	0.0000
16	I go to drink alcohol with my friends	29.1%	12.4%	-65.162	0.0000

In contrast, the activities associated with a greater risk of consumption are: going out to drink alcohol with friends, going to the movies, going to places where there are videogames.

For Table 12, having taken any drug classified as such was sufficient to be considered as having tried drugs. For example, of those who played a sport, 66.5% had tried at least one drug, and of those who did not play a sport, 76.7% had tried at least one drug.

Table 12. Table of drugs in general, including Tobacco and Alcohol, vs. use of spare time with *t*-Student.

No.	Use of Spare Time	Yes	No	<i>t</i> -Student	<i>p</i>
1	I play a sport	66.5%	76.7%	29.813	0.0000
2	I do homework or study	66.7%	78.1%	29.221	0.0000
3	I go out for walks with my family	66.0%	74.9%	29.087	0.0000
4	I help with housework	67.1%	75.2%	20.042	0.0000
5	I watch television at home	67.5%	77.1%	16.736	0.0000
6	I play Nintendo, Xbox, or Playstation	66.7%	70.0%	12.529	0.0000
7	I attend art classes	67.0%	68.6%	5.994	0.0000
8	I play on "slot machines" or arcade games	67.2%	68.4%	4.546	0.0000

9	Other (specify)	66.3%	67.4%	4.182	0.0000
10	I play or go out with my friends	68.2%	64.1%	-9.444	0.0000
11	I do nothing; I'm bored	70.1%	66.6%	-13.518	0.0000
12	I listen to music	68.6%	57.4%	-19.546	0.0000
13	I go to parties	69.6%	62.2%	-22.797	0.0000
14	I go to the movies	70.1%	63.9%	-22.901	0.0000
15	I talk on the phone	70.4%	61.1%	-30.975	0.0000
16	I go to drink alcohol with my friends	83.8%	61.2%	-90.816	0.0000

Finally, the three spare time activities that most contribute as a greater-measure to prevent abusive consumption of any type of drug (including alcohol and tobacco) are sport, study, and family. A campaign is therefore recommended based around these three elements: "*Spend your spare time on FAMILY, STUDY and SPORTS*".

This implies not only that young students should be involved with principal agents of prevention, but that there should also be constant feedback and activity with schools, teachers, and families, in such a way that activities that interest and satisfy young people are able to stem from the school or family unit.

It is important to encourage sport, providing the spaces and training necessary for young people to be able to play within a safe environment. Sport for recreation and fitness can be promoted by schools, also taking into account that study is a relevant factor for prevention.

CONCLUSIONS

The ideal, therefore, is the encouragement of useful periods of spare time, with actions that contribute to the care and preservation of health. From the analysis of the relationship between use of spare time and drug consumption, the three factors that contribute most positively towards preventing abusive drug consumption are:

F = Family (*Familia* in Spanish)

E = Study (*Estudio* in Spanish)

DE = Sports (*DEporte* in Spanish)

It is therefore suggested that the construction of preventative strategies are based on these factors. It could even lead to the creation of a charac-

ter based on FEDE (because they are the letters which begin in Spanish), which invites young people to get involved with the three factors. The activities should be attractive to young people and not imposed upon them or threatening in any way; young people should feel actively involved in them. If this is not the case, the time spent and success will be considerably reduced. The character could also inform young students about the options and activities offered that they could do in their spare time. A useful proposal would be to motivate heads of cultural, sporting, and artistic organizations to reach out to organizations in the health sector with their installations, programs, and offers.

To avoid the consumption and abuse of alcohol, which is the drug with the highest consumption among students, it is recommended firstly to encourage the playing of any sport, and also provide family recreation and leisure activities.

Videogames are also an element of protection against alcohol consumption. In contrast, going out to drink with friends was the activity with the highest risk; it would therefore be pertinent to intensify promotion of healthy behaviors and awareness that allows young people to reflect on the risks of abusive substance consumption and make decisions that enable them to protect themselves against identified risks.

Although playing videogames avoids the consumption of alcohol, it is a factor that possibly increases the risk of tobacco and marijuana consumption; for this reason, this activity could be encouraged in public spaces and areas free of tobacco and hence marijuana, which could reduce the likelihood of students associating this leisure activity with the consumption of the same.

Young people generally grow up surrounded by a wide range of information and communication technology; they are assiduous users of these technologies, and the most utilized media is television and computer with internet. These should not be viewed as appliances which deactivate young brains; rather, the reasons for use, and whether or not their use is of benefit should be questioned, as Umberto Eco suggests: what is the public doing to communication media? (Eco, 1982), including the television. Young students advised that watching television in their spare time is something they enjoy very much, therefore instead of avoiding it, educational television should therefore be provided, modeled on the following (Cabero y Romero, 2002, 6):

“content that has some form of learning and/or educational interest, but which for some reason is not included in the school curriculum and which is directed at the entire population. It should affect the learning of the viewers, changing their knowledge, behavior, attitudes, etc...it should have an educational influence”.

This requires the responsible and committed participation of television companies and a relationship with health, education, and leisure institutions, in order to produce a higher quantity of informative, educational, cultural, and preventative messages or programming.

Finally, it is important to consolidate inter-institutional activities among the educational, health, and particularly recreational spheres, which should be duly systematized and supported, given that mere incidental learning, observation, and imitation of models, or the individual maturing and experience of adolescents is not enough for the development of positive socio-personal or self-caring attitudes (Sudera, 2001). In order to achieve this, deliberate and programmed instruction is necessary that bears these objectives in mind.

Those who coordinate and implement these actions should serve as health promoters, and to quote the Pan-American Health Organization (PAHO), they should also have the following minimum characteristics (Leena, Vince y Posner, 2001, 31):

1. Aptitude for group processes; someone who can enrich, and simultaneously center and guide the group.
2. Ability to act as a guide, as opposed to being dominant.
3. Respect for adolescents and their freedom of choice and self-determination.
4. Personal traits that include: cordiality, supportiveness, and enthusiasm.

This could enable the free joining and participation of young people, to encourage reflection and awareness about the risks and consequences associated with abusive drug consumption, explicitly and implicitly fostering values of caring for life, health, and social respect.

Young students also require the space and infrastructure that allows them to use their spare time in activities which favor a healthy lifestyle, giving them the opportunity to spend their leisure time without needing to turn to abusive drug consumption in order to enjoy themselves. Along with homes, educational, health, and sport institutions can represent safe spaces, which will involve incorporating and assigning places, resources,

programs, and times for young people to use under supervision, in order to foster good health and recreation.

AUTHOR'S CONTRIBUTION

Authors JAGG and GBGT developed the content of this article and data analysis. All authors approved the final manuscript.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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REFERENCES

- Agulló, E., Agulló, M. y Rodríguez, J. (2003). Jóvenes, fin de semana y uso recreativo de drogas. Evolución y tendencias del ocio juvenil. *Revista de sociodrogalcohol*, 15(2), 7-33.
- Bernal, C. (2010). *Metodología de la Investigación* (Tercera ed.). Colombia: Pearson.
- Cabero, J. y Romero, R. (15 de Junio de 2002). *Violencia, juventud y medios de comunicación*. Recuperado el 03 de Setiembre de 2012, de <http://tecnologiaedu.us.es/revistaslibros/violencia.html>
- Carmona, J., Espínola, M. y Cangas, A. (2011). MII-School: A 3d videogame for the early detection of abuse of substances, bullying, and mental disorders in adolescents. *European Journal of Education and Psychology*, 4(1), 75-85.

- Chávez, F. R. (2008). Drogas Estatal. *Sistema de Vigilancia Epidemiológica de las Adicciones en Jalisco*.
- Chávez, J., Villatoro, J., Robles, L. y Bretón, M. (2009). *Encuesta escolar sobre adicciones en el Estado de Jalisco*. México: Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz.
- Chávez, J., Villatoro, J., Robles, L., Bretón, M., Sánchez, V., Gutiérrez, M. y López, V. (2009). En M. Medina Mora, *Encuesta escolar sobre adicciones en el Estado de Jalisco*. México: Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz.
- Consejo Nacional Contra las Adicciones (2009). *Encuesta Nacional de Adicciones 2008*. México: Instituto Nacional de Salud Pública.
- Consejo Nacional contra las Adicciones (s.f.). *¿Qué es la Marihuana?* México: Consejo Nacional contra las Adicciones.
- Consejo Nacional contra las Adicciones (s.f.). *Preguntas frecuentes sobre el uso y abuso de drogas*. Recuperado el 10 de Septiembre de 2010, de http://www.conadic.salud.gob.mx/pib/faqs_drogas.html
- Consejo Nacional contra las Adicciones (2009). *Encuesta Nacional de Adicciones 2008, Resultados por entidad federativa, Jalisco*. México: Instituto Nacional de Salud Pública.
- Diario Oficial de la Federación (2012). *Constitución Política de los Estados Unidos Mexicanos. Constitución publicada en el Diario Oficial de la Federación el 5 de febrero de 1917. Texto vigente. Última reforma publicada DOF 25-06-2012*. México: Diario Oficial de la Federación.
- Eco, U. (1982). ¿El público perjudica a la televisión? En M. Moragas, *Sociología de la comunicación de masas* (págs. 286-303). España: Gustavo Gili.
- El Informador (28 de junio de 2011). Aumentan 68% los casos de consumo de drogas. *El Informador*, págs. <http://www.informador.com.mx/mexico/2011/303013/6/aumentan-68-los-casos-de-consumo-de-drogas.htm>.
- Expósito, J., García Moreno, L., Sanhueza, C. y Angulo, M. (2009). Leisure Activities of First-Year Students at the School of Education: Analysis of Behavioural Implications of Alcohol Consumption. *Magazine complutense education*, XX(2), 403-431.
- Fondo de las Naciones Unidas para la Infancia (2011). *Estado Mundial de la Infancia 2011. La adolescencia, una época de oportunidades*. (D. Anthony, Ed.) Estados Unidos de América: Fondo de las Naciones Unidas para la Infancia.
- Galindo, L. (1998). *Técnicas de investigación en sociedad cultura y comunicación*. México: Logman.

- García del Castillo, J.A., y López-Sánchez, C. (2005). *Manual de estudios sobre cocaína y drogas de síntesis*. España: EDAF.
- Gobierno del Estado de Jalisco (2006). *Ley para Regular la Venta y el Consumo de Bebidas Alcohólicas del Estado de Jalisco*. México: Gobierno del Estado de Jalisco.
- González, M., & Pérez, A. (2009). *Estadística aplicada. Una visión instrumental*. España: Díaz de Santos.
- Hernández, R., Fernández, C. y Baptista, M. (2010). *Metodología de la Investigación*. México: McGrawHill.
- Kish, L. (1982). *Muestro de encuestas*. México: Trillas.
- Leena, M., Vince, C. y Posner, M. (2001). *Enfoque de habilidades para la vida para un desarrollo saludable de niños y adolescentes*. Estados Unidos de América: Organización Panamericana de la Salud.
- Lohr, S. (2000). *Muestreo: Diseño y análisis*. México: International Thompson Editores.
- Machado, E. y Dos Santos, M. (2007). Leisure and the Use of Psychoactive Substances in Adolescence: Possible relations. *Psychology: Theory and Research*, XXIII(1), 43-52.
- Moncada, J. (2006). *Estadística para ciencias del movimiento humano*. Costa Rica: San José.
- Monteiro, M. (2007). *Alcohol y salud pública en las Américas: un caso para la acción*. Washington, D.C: Organización Panamericana de la Salud, Organización Mundial de la Salud.
- Moral, M. y Ovejero, A. (2009). Psychoactive substances experimentation in spanish adolescents: Consumption profile by levels of age. *Latin American Journal of Psychology*, XLI(3), 533-553.
- Morin, E., Roger, E. y Mota, R. (2003). *Educación en la Era Planetaria*. España: Gedisa.
- Organización Mundial de la Salud (2008). *Glosario de términos de alcohol y drogas*. España: Ministerio de Sanidad y Consumo de España.
- Pagano, R. R. (2009). *Estadística para las ciencias del comportamiento*. México: Cengage Learning.
- Paniagua, H., García, S., Castellano, G., Sarrallé, R. y Redondo, C. (2001). Consumo de tabaco, alcohol y drogas no legales entre adolescentes y relación con los hábitos de vida y el entorno. *Anales Españoles de Pediatría*, 55(2), 121-128.
- Pérez, G. (2004). *Modelos de Investigación Cualitativa en Educación Social y Animación Sociocultural. Aplicaciones prácticas*. España: NARCEA.

- Real Academia Española (s.f.). *Somnolencia*. Recuperado el 18 de Julio de 2012, de www.rea.com
- Rodríguez, E. (2005). La investigación sobre el ocio juvenil en relación con los consumos de drogas. En F. p.-L. Mancha, *Observatorio de drogodependencias de Castilla-La Mancha* (págs. 43-56). España: Fundación para la Investigación Sanitaria en Castilla-La Mancha.
- Secretaría de Salud (2009). *Encuesta Nacional de Adicciones 2008*. México: Instituto Nacional de Salud Pública.
- Secretaría de Salud (2009). *Jalisco. Sistema de Vigilancia Epidemiológica de las Adicciones. Informe 2009*. Recuperado el 01 de Agosto de 2012, de Secretaría de Salud
- Serrano, R. (2003). Introducción al análisis de datos experimentales: Tratamiento de datos en bioensayos. España: Universitat Jaume.
- Sudera, I. (2001). *Cómo mejorar el autoconcepto*. España: CCS.
- Tapia-Conyer, R., Cravioto, P., De la Rosa, B., Galván, F. y Medina-Mora, M. (2003). Historia natural del consumo de la cocaína: El caso de ciudad Juárez, Chihuahua. *Mental Health*, 26(2), 12-21.
- Tortajada, S., Valderrama, J., Castellano, M., Lorens, N., Agulló, V., Herzog, B. y Benavent, R. (2008). Consumo de drogas y su percepción por parte de inmigrantes latinoamericanos. *Psicothema*, 20(3), 403-407.
- Velasco Fernández, R. (2008). *La Familia ante las Drogas*. México: Trillas.
- Victoria, J. (1995). *Importancia del uso del tiempo libre*. México: Universidad Nacional Autónoma de México.
- Villatoro, J., Gutiérrez, M., Quiroz, N., Moreno, M., Amador, N., Gaytán, L. y Medina-Mora, M. (Julio-Agosto de 2009). Encuesta de estudiantes de la Ciudad de México 2006. Prevalencias y evolución del consumo de drogas. *Salud Mental*, 32(04), 287-297.
- Villatoro, J., Medina-Mora, M., Hernández, M., Bautista, C., Amador, N. y Bermúdez, P. (2005). La encuesta de estudiantes de nivel medio y medio superior de la ciudad de México: Noviembre de 2003. Prevalencias y evolución del consumo de drogas. *Salud Mental*, 28(1), 38-51.
- World Health Organization (2009). *WHO Report on the global tobacco epidemic, 2009. Implementing smoke-free environments*. France: World Health Organization.
- World Health Organization (2010). *World No Tobacco Day 2010. Theme: Gender and tobacco with an emphasis on marketing to women*. Recuperado el 08 de Febrero de 2010, de <http://www.who.int/tobacco/wntd/2010/announcement/en/index.html>