

INVESTIGACIÓN

Personality traits and alcohol consumption in university students**Rasgos de personalidad y consumo de alcohol en estudiantes universitarios****Características da personalidade e consumo de álcool em estudantes universitários**

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Abstract

Introduction: Personality traits are persistent behavior patterns regarding the way of thinking, perceiving and relating, so they serve as restraining factors that can make the individual prone to acquire behaviors that may be healthy or harmful to health, such as the use of licit and illicit drugs. **Objective:** To determine the relationship between personality traits and alcohol consumption in university students from Ciudad del Carmen Campeche, Mexico. **Methodology:** Quantitative, non-experimental, descriptive correlational, cross sectional study, carried out on a sample of 238 university students in the health area. **Results:** The lapsed prevalence of alcohol consumption was presented in a higher proportion (85.3%), compared to the current prevalence (39.9%) and immediate (20.6%). Regarding the type of alcohol consumption, there is a dependent consumption (19.9%) in university students, despite the prevalence of risky consumption (60.2%). According to AUDIT, a positive relationship was found with the extraversion personality trait ($r_s = .165, p = .02$). **Conclusions:** The profile

of alcohol consumption in young people was identified, as well as a relationship of the extraversion personality trait with alcohol consumption, which highlights the need for the design and implementation of efficient and timely nursing interventions that could significantly contribute to the reduction and eradication of harmful habits for health and the promotion of healthy lifestyles.

Key words: Alcohol Drinking; Young Adult; Personality.

Resumen

Introducción: Los rasgos de personalidad son patrones de conducta persistentes en la forma de pensar, percibir y relacionarse, por lo que fungen como condicionantes que pueden hacer vulnerable al individuo para adquirir conductas saludables o nocivas para la salud, como el consumo de drogas lícitas e ilícitas. **Objetivo:** Determinar la relación entre los rasgos de personalidad y el consumo de alcohol en estudiantes universitarios de Ciudad del Carmen Campeche, México. **Metodología:** Estudio cuantitativo, no experimental, descriptivo correlacional, transversal, efectuado en una muestra de 238 estudiantes universitarios del área de la salud. **Resultados:** La prevalencia lápsica del consumo de alcohol, se presentó en mayor proporción (85.3%), en comparación a la prevalencia actual (39.9%) e instantánea (20.6%). En cuanto al tipo de consumo de alcohol, existe un consumo dependiente (19.9%) en estudiantes universitarios, a pesar de predominar un consumo de riesgo (60.2%). De acuerdo con el AUDIT, se encontró una relación positiva con el rasgo de personalidad de extraversión ($r_s = .165$, $p = .02$). **Conclusiones:** Se identificó el perfil del consumo de alcohol de los jóvenes, así como una relación del rasgo de personalidad extraversión con el consumo de alcohol, lo cual pone en evidencia la necesidad del diseño e implementación de intervenciones de Enfermería eficientes y oportunas que contribuyan de manera significativa a la disminución y erradicación de hábitos nocivos para la salud y el fomento de estilos de vida saludables.

Palabras clave: Consumo de Bebidas Alcohólicas; Adulto Joven; Personalidad (DeCS).

Abstrato

Introdução: Os traços de personalidade são padrões persistentes de comportamento na maneira de pensar, perceber e se relacionar; portanto, servem como fatores condicionantes que podem tornar o indivíduo vulnerável a adquirir comportamentos saudáveis ou prejudiciais à saúde, como o uso de drogas lícitas e ilícito. **Objetivo:** Determinar a relação entre traços de personalidade e consumo de álcool em estudantes universitários de Ciudad del Carmen Campeche, México. **Metodologia:** Estudo quantitativo, não experimental, correlacional, descritivo, transversal, realizado em uma amostra de 238 universitários da área da saúde. **Resultados:** A prevalência decorrida de consumo de álcool foi apresentada em uma proporção maior (85,3%), em comparação à prevalência atual (39,9%) e instantânea (20,6%). Quanto ao tipo de consumo de álcool, existe um consumo dependente (19,9%) em estudantes universitários, apesar da prevalência de consumo arriscado (60,2%). Segundo o AUDIT, foi encontrada uma relação positiva com o traço de personalidade extroversiva ($r_s = 0,165$, $p = 0,02$). **Conclusões:** Identificou-se o perfil do consumo de álcool em jovens, bem como uma relação do traço de personalidade extroversão com o consumo de álcool, o que evidencia a necessidade de desenho e implementação de intervenções de enfermagem eficazes e oportunas que contribuam significativamente à redução e erradicação de hábitos nocivos à saúde e à promoção de estilos de vida saudáveis.

Palavras-chave: Consumo de Bebidas Alcoólicas; Adulto Jovem; Personalidade (DeCS).

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Introduction

Alcohol consumption behavior is considered one of the main challenges currently facing public health, because this health problem has multiple original causes, which conditions a range of biological, psychological, and social disorders, such as various types of cancer, liver cirrhosis, cardiovascular problems, mental disorders, alteration of interpersonal relationships, and traffic accidents, among others, being responsible for about 3.3 million deaths per year in the world, thus significantly impacting the growth, development and strengthening of the family and social nucleus, limiting not only the consumer but also the entire context in which the individual develops, affecting his quality of life, family, group and/or community ^(1,2).

One of the most vulnerable age groups to risky behavior is that of adolescents and young people, because during this growth and development stage, the individual faces biopsychosocial changes in the family, school and work context ⁽³⁻⁶⁾. In Mexico, there are statistical findings that indicate that adolescents and young people between 18 and 25 years of age consume large amounts of alcohol per drinking occasion. Lifetime prevalence of alcohol consumption has been estimated from 77.1% to 77.3%, last year it ranged from 55.7% to 53.3%, last month it ranged from 35.0% to 39.9% and last week it ranged between 13.9% to 22.1%. These data highlight the considerable increase in the excessive consumption of intoxicating drinks, since the percentage shown in the last month and last week is above the national average (19.8%), predominating in the southeastern region of the country ^(7, 8).

One of the conditioning factors that are most related to alcohol consumption during youth are personality traits, defined as persistent behavioral patterns in the way a person thinks, perceives, and relates to others ^(9,10). McCrae and Costa ⁽¹¹⁾ proposed a model of five major dimensions of personality (neuroticism, extraversion, openness, kindness, and awareness), which allow understanding the personality of individuals for the acquisition of habits that influence the development, maintenance, or removal of healthy and unhealthy behaviors and lifestyles.

In the phenomenon of drug dependence, neuroticism involves individuals with low emotional stability and has been strongly associated with the increased use of licit and illicit drugs in young people ^(12, 13), while



extraversion refers to social individuals, with positive affection, in search of adventure and impulsiveness, and studies carried out in the United States of America and Serbia have related this trait to increased drug use ^(5, 14).

Regarding openness and kindness, these two are characterized by individuals with assertive ideas and freedom of thought, with capacity for altruism, identified by their compassion, trust, and generosity; however, research carried out in Spain has shown an association of this personality trait with the consumption of intoxicating drinks in young people ^(7, 15). Likewise, awareness shows the quality of a high sense of duty, in addition to diligent, responsible and disciplined individuals, which compose a protective factor for a lower alcohol consumption ^(12, 16).

Despite the diverse characteristics of thoughts, feelings, and behaviors that characterize young people, personality traits in relation to addictions are addressed to develop various worldwide problems, mainly in university students, who in addition to be experiencing the changes of youth, also as future professionals are immersed in a process of academic training that originates in a sociocultural context that can function as a protective factor to drinking alcoholic drinks, or sometimes, on the opposite, it functions as a risk factor towards alcohol consumption ^(8, 16, 17, 18). In addition to the fact that within the training process, the university student faces multiple school challenges, which cause alterations related to emotional fatigue, physical exhaustion, overwhelming workload, increased responsibility, limited family life, lack of recreational activities and fun, which become factors that condition the probability of acquiring behaviors that are harmful to health, related to alcohol consumption as a resource to mitigate academic stress and the aforementioned situations ^(18, 19).

For this reason, it is important to have an approach to this study phenomenon, linked to personality traits, which allows obtaining more knowledge about behavioral patterns and their relationship with possible risky situations⁽²⁰⁾. In this sense, the present research was aimed to determine the relationship between personality traits and alcohol consumption in university students.

Methodology

A quantitative, non-experimental, correlational and cross-sectional study was conducted to establish the relationship between personality traits and alcohol consumption ⁽²¹⁾. The population of interest consisted of young university



students in the health area in a public institution of higher education located in Ciudad del Carmen, Campeche, Mexico. The sampling was randomly stratified by semester, estimating the sample size using the statistical package n'QueryAdvisor version 7.0⁽²²⁾, with a power of 90%, significance of .05, correlation of .30, non-response rate of 10%; the sample was comprised by 238 participants.

For the collection of information, the registration FCS/032018 was obtained from the Research Committee of the School of Health Sciences of the Universidad Autónoma del Carmen, as well as the authorization of the educational institution where the project was performed; the objective of the study was explained to the directors, requesting the current list of students enrolled in each semester according to the current school year, to select the participants randomly, the chosen students were invited to participate voluntarily and anonymously, those who accepted were given informed consent to obtain their authorization.

The application of the instruments was carried out on the day and time agreed upon with the students, who were given a sealed envelope, which they opened individually, to read only the objective of the study and the instructions for filling it out; at all times the integrity of the participants was respected, in accordance with the provisions of the General Health Act for Medical Research involving Human Subjects⁽²³⁾; at the end, each student placed the envelope in an urn, located at the exit of the classroom.

Three pencil and paper instruments were used which were: (a) Personal Data Card and Prevalence of Alcohol Consumption (CDPPCA -*Cédula de Datos Personales y Prevalencias del Consumo de Alcohol*- by its acronym in Spanish), (b) Alcohol Use Disorders Identification Questionnaire (AUDIT), developed by the World Health Organization⁽²⁴⁾, validated in Mexican population by De la Fuente & Kershenobich⁽²⁵⁾ and c) Reduced Five Factor Personality Inventory (NEO FFI)⁽²⁶⁾, which results from the Revised NEO Personality Inventory (NEO-PI-R)⁽²⁷⁾ and validated in Mexican population by Reyes, Álvarez, Peredo, Miranda, and Rebolledo⁽²⁸⁾.

The *Cédula de Datos Personales y Prevalencias de Consumo de Alcohol* (CDPPCA), collects general information related to personal data of the university student such as age, gender, semester, educational program attended, as well as prevalence of alcohol consumption, classified as consumption sometime during the life, last year,



last month, last seven days, as well as the age of onset of alcohol consumption and the number of drinks drunk by the young person in a regular day.

The Alcohol Use Disorders Identification Test (AUDIT), consisting of 10 multiple-choice questions with a score range of 0 to 4, identifies individuals with alcohol use and abuse problems during the past year. The scale scores range from 0 to 40, where the higher the score, the greater the alcohol use ⁽²⁵⁾. The AUDIT consists of three domains, items 1, 2 and 3 indicate the amount and frequency of alcohol consumption and determine sensible (non-risky) drinking, items 4 to 6 assess the possibility of alcohol dependence (risky), and items 7, 8, 9 and 10 explore harmful drinking. The AUDIT in the present study obtained a Cronbach's Alpha of .79.

The Five Factor Reduced Personality Inventory (NEO FFI) consists of 60 items classified in five dimensions (neuroticism, extraversion, openness, kindness, awareness), each dimension is made up of 12 items, with scores ranging from 0 to 4, on a rating scale where 0 = strongly disagree, 1 = disagree, 2 = neutral, 3 = agree and 4 = strongly agree. The scores are obtained by adding the responses of the 12 items of each dimension, making a total value ranging from 0 to 48 points, which means that the higher the score, the higher the personality characteristic defined by the dimension of tendency. The NEO FFI in this research reported a Cronbach's Alpha of .72.

The statistical process of the information collected (capture, assessment, and interpretation of the results) was carried out using the Statistical Package for the Social Sciences (SPSS) version 23.0 for Windows, making use of descriptive statistics (frequencies, proportions, measures of central tendency, and dispersion) and inferential statistics. The reliability of the instruments was determined through Cronbach's Alpha, as well as the Kolmogorov-Smirnov normality test and, given the results of the study, it was decided to use non-parametric tests (Mann Whitney U test and Spearman Correlation).

Results

66.4% of the university students were female, with a mean age of 21.24 years (SD = 2.9), regarding the school grade, 37.0% were in their second semester, and 31.9% in their eighth semester; in relation to the educational programs of the Health Sciences School, 26.9% of the participants were enrolled in the Bachelor's Degree in Nursing, followed by



the Bachelor's Degree in Medicine (25.6%), then the Bachelor's Degree in Nutrition (14.7%), Bachelor's Degree in Clinical Psychology (13.4%), Bachelor's Degree in Physical Therapy (11.8%), and Bachelor's Degree in Physical Education and Sports (7.6%).

Regarding alcohol consumption, it was found that the mean age of onset of alcohol consumption was 17.5 years (SD = 2.3), with an average consumption of intoxicating drinks in a regular day of 4.1 drinks (SD = 3.5), with beer being the drinks that had the greatest preference among university students (49.2%), followed by prepared alcoholic drinks (15.2%).

With respect to the prevalence of alcohol consumption among university students, Table 1 shows that the lapsic prevalence was higher (85.3%), compared to the current (39.9%) and instantaneous (20.6%) prevalence.

Table 2 shows that there is dependent consumption (19.9%) among students, despite the predominance of risky or responsible consumption (60.2%).

Table 1. Prevalence of alcohol consumption in university students.

Prevalence	Yes		No	
	<i>f</i>	%	<i>f</i>	%
Sometime in life	203	85.3	35	14.7
Over the last year	191	80.3	47	19.7
Over the last month	95	39.9	143	60.1
Over the last week	49	20.6	189	79.4

Source: $n = 238$, f = frequency, % = percentage.

Table 2. Types of alcohol consumption according to AUDIT in university students.

Consumption type	Yes		No	
	<i>f</i>	%	<i>f</i>	%
Responsible consumption	115	60.2	76	39.8
Dependent consumption	38	19.9	153	80.1
Harmful consumption	62	26.1	129	67.5

Source: $n = 238$, f = frequency, % = percentage.



With regard to personality traits, awareness predominates with a mean of 28.7 (SD = 7.4), where 34.9% of the students stated that they have clear objectives and strive to achieve them in an orderly manner. While neuroticism obtained a mean of 18.0 (SD = 8.4); 31.8% of the university students reported having a high degree of emotional stability, followed by 26.2% who disagreed with doing things by impulse and then regretting it (Table 3).

Table 3. Measures of central tendency and variability of the NEO FF-I inventory in university students.

Total scale and dimensions	\bar{X}	Mdn	SD	S ²	Mín.Value	Máx.Value
NEO FF-I	125.57	125.00	19.73	389.40	77.00	172.00
Neuroticism	18.07	17.00	8.42	71.03	2.00	46.00
Extraversión	26.37	26.00	9.08	82.59	7.00	45.00
Openness	25.26	25.00	7.02	49.38	8.00	46.00
Kindness	27.10	27.00	7.31	53.46	7.00	45.00
Awareness	28.76	28.00	7.48	55.99	13.00	47.00

Source: $n = 238$, \bar{X} =mean, Mdn=mean, SD = standard deviation, S² = variance, Min Value = minimum value, Max Value= maximum value.

Significant differences were identified between alcohol consumption done some time during the lifetime (U = 2564.0, $p = .009$) and during past year (U = 3460.0, $p = .015$) regarding awareness. Significant differences were also found between alcohol consumption in the last year (U = 3458.5, $p = .015$) and in the last month (U = 5706.5, $p = .037$) with the personality trait neuroticism (Table 4).

Referring to the research objective, a positive and significant relationship was determined between the personality trait of extraversion and alcohol consumption, according to AUDIT ($r_s = .165$, $p = .023$).

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Table 4. Mann-Whitney U test for the prevalence of alcohol consumption by personality traits in university students.

Alcohol consumption some time		n	\bar{X}	Mdn	U	p
Awareness	Yes	203	28.25	28.00	2564.00	.009
	No	35	31.71	33.00		
Alcohol consumption in the last year						
Neuroticism	Yes	191	18.71	18.00	3458.50	.015
	No	47	15.44	15.00		
Awareness	Yes	191	28.17	28.00	3460.00	.015
	No	47	31.12	31.00		
Alcohol consumption in the last month						
Neuroticism	Yes	95	19.53	19.00	5706.50	.037
	No	143	17.09	16.00		

Source: $n = 238$, \bar{X} =mean, Mdn =median, U = Mann Whitney U test, p = significance.

Table 5. Spearman correlation for the quantitative variables of the study.

Variables	AUDIT
NEO FF-I Sum	.023
	.755
Neuroticism	-.051
	.482
Extraversión	.165*
	.023
Openness	.006
	.930
Kindness	-.045
	.538
Awareness	-.032
	.662

Note: * $p < .05$, ** $n = 191$, *** $n = 238$.

Discussion

The study allowed demonstrating the relationship between personality traits and alcohol consumption in university students in Ciudad del Carmen, Campeche, Mexico, showing that university students start to drink alcoholic drinks, on average, when they are 17 years of age, data similar to those reported by the ENCODAT ^(4, 29), in a study



conducted in university students, which reported the beginning of alcohol consumption takes place around 17 years of age or younger, which could be linked mainly to the fact that young people are in a transition period between adolescence and adulthood, where they seek independence, feeling members and participants of their own behaviors, values, regulations, principles, habits, customs, and fashion ^(8, 17).

The findings of this research showed that more than a quarter of the university students drank alcohol in the last month, which is consistent with what was reported by a research performed in Central ^(17, 30) and Northern Mexico (8), where it was stipulated that alcohol consumption among young university students is due to the fact that they are the most vulnerable sector of the population, due to the range of situations in which university students are immersed (interpersonal and academic environment as well as work context), in addition to the fact that upon reaching legal age, the possibilities of accessibility to alcoholic drinks increase exponentially, so that this consumption behavior is also associated with the search for identity, belonging to groups and/or peer acceptance, social phenomena that increase the risk of consumption ^(31, 32).

Awareness was the personality trait that stood out, due to the fact that young people agree to work hard to achieve their goals and have clear objectives, findings that differ from the results obtained by international research ^(7, 15), which indicate that the personality traits that characterize young people are neuroticism and extraversion; this could be explained by the fact that university students who are focused on the health sector, they face more responsibility, since they work with human beings. Thus, their performance is associated to personality characteristics such as high sense of duty, responsibility, and discipline ^(5, 19).

In addition, awareness was the personality trait that predominated in university students who had not drunk alcohol at some time in their lives and in the last year, findings that can be attributed to the fact that it is a personality trait associated with a high sense of responsibility, organization, and control for their activities of their daily life (family, work, school), as well as effectiveness, efficiency, and self-discipline, determining characteristics for healthy lifestyles ^(9, 16).



Moreover, the personality trait neuroticism presented a greater tendency in students who reported having drunk alcohol during the last year and last month, a situation similar to that reported by a study carried out in graduate students from different countries both in Europe and Latin America ⁽⁵⁾, which is linked to this personality trait, characterized by people with a lack of assertive or positive ideas. Additionally, during this stage of life, university students face academic and family environments that can cause stress, irritability, anxiety, fatigue, and changes in sleep patterns, potentiating alcohol consumption as a way to reduce negative emotions ^(19, 20).

With respect to the objective of this research, a positive and significant relationship of the personality trait extraversion with alcohol consumption was found, which was congruent with the findings from researches carried out in Spain ⁽¹²⁾ and Argentina ⁽¹⁵⁾, who reported a significant relationship between risky and harmful consumption and the personality trait extraversión. This could be attributed to the fact that young university students with this personality trait reported being cheerful, enjoying parties where there are many people, as well as being active and being where there is action, conditioning characteristics in their personality that increase the probability of presenting high alcohol consumption, which can significantly affect their quality of life.

Conclusions

In conclusion, it can be said that personality traits contribute to obtain relevant data related to the profile of alcohol consumption in university students in the health sector, allowing to know the impact and significance of the phenomenon in this age group, giving the nursing professional the opportunity to identify risk factors on time. This will allow the establishment in the short term of discipline-specific interventions aimed at health promotion and education, which will contribute to prevent, limit, or eradicate behaviors related to the consumption of licit and illicit substances, favoring a better quality of life during adulthood and promoting healthy lifestyles.



Conflicts of interest

All the authors who participated in this article state there are no conflicts of interest.

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