|  |  |  |
| --- | --- | --- |
|  | **MLS – PSYCHOLOGY RESEARCH (MLSPR)**  http://mlsjournals.com/Psychology-Research-Journal  ISSN: 2605-5295 |  |

***(2025) MLS-Psychology Research,* *8*(1), 7-21. doi.org/10.33000/mlspr.v8i1.2900**

**Analysis of Alcohol Consumption as a Specific Risk Behavior:  
Relationship with General Risk-Taking and Personality**

**Análisis del consumo de alcohol como conducta de riesgo específica: relación con la toma de riesgo general y la personalidad**

**Nicole Duhau López**

European University of the Atlantic (Spain)

(nicoleduhau1@gmail.com) (<https://orcid.org/0009-0002-6087-7595>)

**Anjana Allende Fernández**

European University of the Atlantic (Spain)

(anjana.af@gmail.com) (<https://orcid.org/0009-0005-7820-4382>)

**Manuscript information:**

**Recibido/Received:**10/06/24

**Revisado/Reviewed:** 09/12/24

**Aceptado/Accepted:** 11/12/24

|  |  |
| --- | --- |
|  | **Abstract** |
| **Keywords:**  alcohol, risk-taking, personality, youth | Alcohol, the most widely consumed legal drug nationwide, has commonly known harmful effects on both physical and mental health, with binge drinking being the rising consumption pattern. The aims of this quantitative study were to examine (a) the relationship between risk-taking, assessed with objective and subjective measures, and alcohol consumption, in terms of risk of problematic use, and (b) the associations between the Big Five personality traits and alcohol use, in terms of risk of problematic consumption, seeking to find which personality trait is the greatest predictor of consumption. Participants were students from the Universidad Europea del Atlántico (*n*=52) of both sexes aged between 18 and 30 years old (mean=20,67 years old, dt=±2,23). Questionnaires AUDIT, DOSPERT-30, and an abbreviated form of NEO-PI were administered, as well as a computerized laboratory task (BART). Findings show no significant differences in alcohol consumption between male and females. Results also reveal that, regarding alcohol consumption, there is a significant positive correlation with subjectively measured risk-taking and a negative relationship with the responsibility personality trait. We have also found that subjectively measured risk-taking has a greater predictive value for alcohol use than personality traits. Identifying which variables are determinant in alcohol consumption, and discarding those that are not, will contribute to increasing the specificity of prevention campaigns as well as their effectiveness in university students. |
|  | **RESUMEN** |
| **Palabras clave:**  consumo de alcohol, toma de riesgo, personalidad, jóvenes | El alcohol, la droga legal más consumida a nivel nacional, tiene efectos nocivos para la salud física y mental ampliamente conocidos, siendo el consumo en atracón el patrón de consumo en auge. Los objetivos del presente estudio de naturaleza cuantitativa fueron analizar (a) la correlación entre la toma de riesgo, en términos objetivos y subjetivos, y el consumo de alcohol, en términos de riesgo de consumo problemático, y (b) la relación entre los factores de personalidad según el modelo de los Cinco Grandes y el consumo de alcohol, en términos de riesgo de consumo problemático, buscando analizar qué rasgo de personalidad es el mayor predictor del consumo. La muestra estuvo conformada por alumnos de la Universidad Europea del Atlántico (*n*=52) de ambos sexos de entre 18 y 30 años de edad (media= 20,67 años, dt=±2,23). Se administraron los cuestionarios AUDIT, DOSPERT-3O y una versión abreviada del NEO-PI, así como una tarea conductual virtual (BART). Los resultados obtenidos no muestran diferencias significativas en el consumo de alcohol entre sexos. Respecto al consumo de alcohol se evidencia una correlación significativa positiva con la toma de riesgos medida subjetivamente, y una relación negativa con el factor de personalidad responsabilidad. También se encuentra que la toma de riesgo medida subjetivamente tiene mayor valor predictivo que los factores de personalidad sobre el consumo de alcohol. Conocer qué variables son determinantes en el consumo de alcohol, y descartar las que no, contribuirá a aumentar la especificidad de las campañas de prevención y su eficacia en población universitaria. |

**Introduction**

Alcohol is the most consumed legal drug at the national level in the general population according to the Spanish Observatory on Drugs and Addictions (OEDA, 2023). The harmful physical and mental health effects of alcohol are widely known, causing approximately 3.3 million deaths per year globally and more than 200 diseases, including major noncommunicable diseases, such as liver cirrhosis, some cancers, cardiovascular diseases, and infectious diseases, such as tuberculosis and HIV (WHO, 2022). The role of alcohol consumption in intentional and unintentional injuries, including those due to traffic accidents, violence and suicide, should not be overlooked (WHO, 2022). The WHO describes alcohol as a psychoactive substance with properties that can lead to dependence, implying that its consumption is associated with an increased risk of developing mental and behavioral disorders (2022). Alcohol intake usually precedes the consumption of other substances, in addition to facilitating polyconsumption (Díaz-Castela et al., 2016). Even so, more harmful are the social and health repercussions derived from legal substances (alcohol and tobacco) than from illicit substances (Urday-Concha et al., 2019).

According to the latest edition of World Health Statistics, exposure to alcohol consumption is significant, with the highest consumption rates found in the European region (WHO, 2023). The prevalence of consumption at the national level is highest in the 15-34 age group (78.9% have consumed alcohol in the last year), among which a risky drinking pattern stands out (OEDA, 2023), defined as "a pattern of alcohol consumption that increases the likelihood of negative consequences for the drinker or for his or her environment" (OEDA, 2021, p. 87). This includes weekly or daily consumption, acute alcohol intoxication, behaviors that can result in dependence or associated problems, and *binge drinking*, which is the consumption pattern on the rise (OEDA, 2021), with a prevalence of 15.4% in the last 30 days in the general population, being twice as high in men as in women at the national level (OEDA, 2023).

Concern about problematic alcohol consumption is nothing new. At the national level, there are several awareness campaigns, for example, the one proposed by the Ministry of Health "Don't miss anything" (2022). Common to these campaigns is their focus on raising awareness of the adverse effects of alcohol consumption. However, studies show that heavy use of this substance is becoming more common (Rodriguez et al., 2019) and in a more risky manner (OEDA, 2023).

With the above, it is evident that alcohol consumption among young people is on the rise; however, the factors that motivate it have not been fully elucidated. Looking at the underlying reasons for consumption can help to better understand it, allowing more effective action to be taken to reduce it.

The consumption of this substance is higher in the university population (Delgado-Lobete et al., 2020; Díaz-Castela et al., 2016). However, different studies assure that students are aware of the risks and harmful effects associated with its consumption (Alcedo et al., 2014; Angulo et al., 2019; Díaz-Castela et al., 2016), so ignorance is not contemplated as a motivating factor. Knowing this, situational factors can be considered on the one hand, and, on the other, relatively stable traits in the individual that are motivating alcohol consumption.

Regarding situational factors, it seems to be clear that the level of economic development, cultural traditions, social norms, accessibility of alcohol and the implementation and monitoring of policies related to its consumption are the major motivators of consumption (WHO, 2022). Many authors agree that consumption is socially motivated, some even describing it as a social drug (Díaz-Castela et al., 2016; Urday-Concha et al., 2019). Inglés et al. (2007) state that both alcohol and tobacco are consumed nationally because of their availability and social acceptance. Along these lines, Barned et al. (2021) emphasize the importance of the context, which influences the social acceptance of consumption in the specific situation. It should be taken into account that in the university stage there are a series of life changes (e.g., leaving home, socioeconomic difficulties, independence and the beginning of adulthood) that may involve alterations in decision-making and have a direct impact on the consumption of substances such as alcohol (Angulo et al., 2019; Garrido and Lorenzo, 2016).

As far as the individual is concerned, factors such as personality and *risk-taking* have been studied. However, the findings in the literature are diverse and, according to WHO (2022), within the individual factors, it cannot yet be affirmed that there is a determining risk factor. This is why the present study focuses on individual motives for consumption, specifically risk-taking and personality factors, due to the lack of consensus.

Risk taking is a heterogeneous and complex construct to assess (Smith and Benning, 2021). However, several authors have made efforts to try to define it. Thus, risk taking is used to define behaviors that entail a perceived uncertainty about their outcomes, and thus about their potential benefits or costs to the physical, economic or psychosocial well-being of oneself and others (Trimpop, 1994). This uncertainty affects both the probability of occurrence of an outcome ("it may happen") and the probability of the value of that outcome ("it may be worthless") (Trimpop, 1994).

Several theories have emerged around this concept in order to explain it. Kahneman and Tversky (1979) developed the Prospect Theory, which defines risk taking as context-dependent, understanding that people perceive the results of an action as gains or losses depending on a reference point, which usually corresponds to the current state or position, and which can be affected by the expectations of the decision maker. Later Sitkin and Pablo (1992), based on results that contradict this theory, develop a model that explains risk taking through risk perception, understood as the evaluation of the risk inherent in the situation and influenced by the contextualization of the problem and social influence, and risk propensity, defined as the individual's tendency to take risks. Findings from recent studies show that there is a combination of situational and personal influences on risk-taking, with individuals being able to avoid risk in some areas and seek risk in others, while having a general disposition that is more or less risk-seeking (Nicholson et al., 2006).

One construct that emerges and appears clearly related to risk taking is risk perception. However, although the relationship between the two seems to be evident (some authors even use them interchangeably), the nature and direction of this relationship is not entirely clear (Mills et al., 2008; Reyna and Farley, 2006), partly because it depends on how these constructs are defined and measured.

Of particular interest in this regard is substance use, which is considered a risk behavior related to the health domain. Regarding alcohol consumption, the perception of risk is lower compared to other drugs (licit and illicit), although it is increasing (OEDA, 2023). It is striking that although the perception of risk is increasing, the statistics on its consumption are also increasing.

When investigating other factors that affect alcohol consumption, personality emerges as the strongest independent competitor among different variables with effects on this risk behavior (Nicholson et al., 2006).

Personality traits are stable patterns of perceiving, thinking, and relating to others (DSM-IV-TR, American Psychiatric Association, 2000; Gonzálvez et al., 2016; Hakulinen and Jokela, 2019). Numerous models have been proposed over the years in relation to these traits.

One of the most widely accepted theories of personality traits is the Big Five model proposed by Costa and McCrae (1994), which proposes 5 personality factors (extraversion, responsibility, openness to experience, agreeableness and neuroticism). Numerous studies have been conducted on this model linking these traits to risk behaviors. In the study by Nicholson et al. (2006) found, on the one hand, a positive correlation between the traits of extraversion, openness to experience and general risk-taking scores and, on the other hand, a negative correlation with the traits of neuroticism, agreeableness and responsibility.

Apart from general risk, many researchers focus on specific domains of risk behaviors, such as the health domain, where alcohol consumption is found. Findings about this relationship are mixed. Regarding neuroticism, it seems that this trait lacks utility in predicting risk behaviors in general (Booth-Kewley and Vickers, 1994; Hampson et al., 2006; Markey et al., 2003; Mirnics et al., 2021), although there are authors who have found a positive relationship with alcohol consumption in young adults (Dash et al., 2019; Hicks et al., 2011), and others who consider it a predictor of these behaviors (Anderson et al., 2005). Regarding extraversion, some authors do not find significant relationships (Caspi et al., 1997 cited in Hong and Paunonen 2009), but most of the literature points to a significant positive correlation (Anderson et al., 2005; Hampson et al., 2006; Hong and Paunonen 2009; Kuntsche et al., 2004; Lauriola and Weller, 2018; Lui et al., 2022) being considered a risk factor for problem drinking (English et al., 2007). Along these lines, with respect to openness to experience, positive relationships have been found with excessive alcohol intake (Booth-Kewley and Vickers, 1994; Lauriola and Weller, 2018; Trull and Sher, 1994). In relation to responsibility, negative correlations are found with alcohol consumption (Bogg and Roberts, 2004; Dash et al., 2019; Hong and Paunonen, 2009; Lui et al., 2022). Finally, about the kindness trait, a negative relationship with alcohol consumption is found (Dash et al., 2019; Hong and Paunonen 2009; Lui et al., 2022).

In sum, we conclude that high scores on the traits of extraversion and openness to experience, and low scores on the traits of responsibility, neuroticism and agreeableness lead to a higher propensity for risky behaviors, more specifically, alcohol consumption. However, the findings are mixed and it is important to continue research to clarify these relationships.

Gender, age, education or nationality should be taken into account as influential factors in alcohol consumption. In general, young men engage in more risky behaviors, over women or older men (Frey et al., 2017; Nicholson et al., 2006). The pattern is repeated with respect to alcohol consumption, men are more likely to consume (OEDA, 2023; Rodríguez et al., 2019), while women are more aware of policies against consumption (OEDA, 2023) and the problems it generates at the individual and social level (Uribe et al., 2011). This is why some authors recommend intervention on drug use differentiated between men and women (Inglés et al., 2007; Uribe et al., 2011). In addition, it has been seen that university students are more likely to consume compared to those with no studies, followed by high school or vocational training students (Rodríguez et al., 2019). Young people of Spanish nationality are more likely to consume, above other nationalities (Rodriguez et al., 2019). Knowing the reasons for these differences will help to create prevention programs more specific to the targeted population.

The aim of the present study is to assess the extent to which general risk taking, in objective and subjective terms, and personality, according to the Big Five model, predict alcohol consumption, in terms of risk of problem drinking, in a university population. Thus, the general hypothesis is that risk taking, both objective and subjective, will correlate positively with alcohol consumption; and there is a positive correlation between the traits of extraversion and openness to experience, and a negative correlation between the traits of responsibility, neuroticism and agreeableness with alcohol consumption.

More specifically, the specific objectives would be as follows: (a) to assess the correlation between risk taking, in objective and subjective terms, and alcohol consumption, in terms of risk of problem drinking, and (b) to analyze the relationship between personality factors according to the Big Five model and alcohol consumption, in terms of risk of problem drinking, seeking to analyze which personality trait is the strongest predictor of consumption.

The specific hypotheses would be: (a) we will find a positive correlation between alcohol consumption and behaviorally measured risk taking, as well as with subjectively measured risk taking, and (b) we will evidence a negative correlation between alcohol consumption and the factors of responsibility, agreeableness and neuroticism, versus a positive correlation with the factors of extraversion and openness to experience, seeing that extraversion is the strongest predictor of alcohol consumption.

**Method**

## *Participants*

The present study consisted of two phases. In the first phase, a survey was created to collect data related to the inclusion and exclusion criteria, in order to make a first screening of subjects. Once the actual sample was obtained, the second phase consisted of the evaluation tests.

In the first phase, 207 participants completed the questionnaire on inclusion and exclusion criteria. Of these, 33 were excluded because they did not meet the criteria, and another 3 did not provide contact information. In total, 116 participants completed the second phase. Of these, 53 performed the behavioral task, discarding one subject due to technical failures during the test. The final sample consisted of *n*=52 individuals of both sexes (36 females and 16 males) between 18 and 30 years of age (mean=20.67 years, dt=±2.23). A non-probabilistic convenience sample was chosen, based on the voluntary participation of the students, due to the economic and technical restrictions of the study.

The inclusion criteria were to be between 18 and 34 years of age, to be studying a bachelor's, master's or doctoral degree at the Universidad Europea del Atlántico, to speak and understand Spanish, and to be able to give written informed consent. Exclusion criteria were occasional, weekly or daily use of cannabis or other illicit substances in relation to habitual use. This criterion is established because, first, the presence of multiple substance use may make it difficult to identify the specific effects of alcohol on risk taking and, second, there are studies that highlight that the use of illicit substances or cannabis may trigger persistent effects on participants' physical and mental health, which may subsequently influence risk taking in a different way than alcohol use, complicating the interpretation of the results (Butler and Montgomery, 2004; Gilman et al., 2015; Gowin et al., 2017).

## *Instruments*

To measure our first variable, alcohol consumption in terms of risk of problem drinking, we used the Spanish version of the *Alcohol Use Disorders Identification Test* (AUDIT) (Saunders et al., 1993) adapted by Rubio et al. (1998). It is a 10-item self-administered scale. It is composed of three factors, being consumption itself (in terms of quantity and frequency), dependence and associated problems, structured in 3, 4 and 3 items respectively. The response form is Likert-type, from 0 to 4, and a direct total score is obtained between 0 and 40. The internal consistency of the AUDIT in our sample is 0.71, making it a good measurement instrument for our purposes.

For the measurement of the second variable, risk taking, a behavioral measure and a subjective measure (self-report of risk taking) were used. The *Ballon Analogue Risk Task* (BART) (Lejuez et al., 2002) was used for behavioral risk assessment through the e-Prime program. This virtual behavioral task consists of participants sequentially inflating balloons until they consider that they are about to explode, with the probability of explosion being completely random (Lejuez et al., 2002). Each time they inflate the balloon they get 5 points, but if the balloon bursts they do not receive the points accumulated in that trial (Lejuez et al., 2002). The BART has demonstrated good ecological validity and acceptable test-retest reliability (*r* = 0.77, *p* < 0.001) (White et al., 2008). For the subjective assessment of risk-taking, the Spanish version of the *Domain-Specific Risk-Taking Scale* (DOSPERT-30) (Blais and Weber, 2006) was used, adapted to Spanish by Fernández et al. (2017). It is a self-administered questionnaire composed of three subscales: propensity to risk behaviors, risk perception and expected benefits (Fernandez et al., 2017). Each subscale consists of the same 30 items that are structured into five domains: ethical, financial, health/safety, recreational and social (Fernandez et al., 2017). What changes with respect to each subscale is the form of response. Taking into account the objectives of the present study, use is made of the propensity to risk behaviors subscale whose response style is Likert-type, from 1 (Highly improbable) to 7 (Highly probable) (Fernández et al., 2017). In our sample, a total internal consistency of 0.78 was observed.

Finally, to measure our third variable, personality traits, we used the revised and abbreviated version of the NEO-PI personality inventory known as NEO-FFI (Costa and McCrae, 1994) adapted to Spanish by Cordero et al. (1999). This scale consists of 60 items that measure the personality factors of the Big Five model (Costa and McCrae, 1994). The factors are extraversion, openness to experience, responsibility, agreeableness and neuroticism, and the internal consistencies obtained in our sample were 0.86, 0.77, 0.86, 0.71 and 0.82 respectively. It is answered with a Likert scale ranging from A (Strongly disagree) to E (Strongly agree) (Cordero et al., 1999).

## *Procedure*

We worked with a design that, according to the classification of Montero and León (2007), corresponds to a correlational study of populations through cross-sectional surveys.

Participants were recruited through messages on social networks and institutional email, in addition to informing about the study in person as a way to encourage participation. They were then provided with a *link* through which they could access a survey in which they could complete the preliminary data that allowed us to discard participants according to the inclusion and exclusion criteria.

The test battery was applied to each participant individually and computerized, with the exception of the BART test, which was carried out in the Psychology laboratory of the Universidad Europea del Atlántico. For the administration of AUDIT, DOSPERT-30 and NEO-FFI, the Google Forms tool was used, and for BART, the E-Prime 3.0 software was used, duly installed on the laboratory computer. The total evaluation time was approximately 40 minutes.

The DOSPERT-30 score used is the result of the sum of the 5 domains, known as the overall risk-taking index. For the implementation of BART, there are no firm methodological guidelines that regulate variables such as the number of trials to be performed (White et al., 2008). Following the method of several studies, 30 trials are included in the interest of reducing participant fatigue (Fernie et al., 2010; Lejuez et al., 2002; MacPherson et al., 2010; Skeel et al., 2008). In accordance with the recommendations of Lejuez et al. (2002), our outcome variable is the average number of pulses in balloons that did not burst, known as the adjusted number of *pumps*.

The data collected were analyzed using the appropriate statistical tools to evaluate differences between groups, correlations and predictive models, as detailed in the following section.

The protocol of our study has been approved by the ethical committee of the Universidad Europea del Atlántico. Likewise, written informed consent was obtained from each of the participants, stating that they were informed of the purpose of the study and understood their rights to participate.

**Results**

SPSS version 15 for Windows was used for data analysis. These were divided into three phases: sex differences in alcohol consumption, correlation analysis between all variables, and a hierarchical regression to find out which variable has the highest predictive value for alcohol consumption. Table 1 shows the means (x̅) and standard deviations (dt) for all variables.

In the first phase to analyze sex differences in alcohol consumption, equality of variances between males and females in alcohol consumption is assumed because Levene's test has a significance of 0.473 (*p* > 0.05). The t-student test shows that there are no significant differences in sex and alcohol consumption, with a significance is 0.165, so *p* > 0.05.

In the second phase, the bivariate correlation coefficients between all the variables were calculated using Spearman's Rho correlation coefficient (see Table 1). The significance level was set at 5%, so *p*-values less than 0.05 were considered statistically significant (the same for all subsequent analyses).

On the one hand, significant correlations were found between alcohol consumption (AUDIT) and subjectively measured risk taking (DOSPERT-30), suggesting that the higher the subject's alcohol consumption, the higher the subject reports a greater propensity to take risks in general. There was also a significant negative relationship between alcohol consumption and the responsibility personality factor (NEO-FFI), which leads to the conclusion that the higher the responsibility score, the lower the rate of problem drinking. Along these lines, the responsibility factor has also been correlated with the subjective measure of risk-taking (DOSPERT-30), this relationship being negative, thus seeing that the more responsible the subject is, the less risk-taking tendency he/she reports in general. It is worth mentioning the existence of marginally significant correlations between the extraversion factor (NEO-FFI) and both risk-taking measures (BART and DOSPERT-30). Both are positive, so the greater the extraversion, the greater the risk-taking both objectively and subjectively.

In the third phase, a hierarchical regression model was created to analyze which variable has the highest predictive value for alcohol consumption in two steps (see Table 2). Due to the non-significant relationships found between alcohol consumption and personality factors, with the exception of the responsibility factor, and between the objective measure of risk taking, these are excluded from our regression model. The two remaining factors, responsibility and subjective risk-taking, are independent of each other, so we can affirm that there is no multicollinearity. Thus, it is obtained that, in the first step, the responsibility factor predicts 15% of alcohol consumption (*p*<0.05), being the direction of this relationship negative. In the second step, when adding the subjective measure of risk-taking, responsibility loses its significance, thus understanding that risk-taking measured subjectively is the factor that most predicts alcohol consumption. The model with these two factors predicts 25% of alcohol consumption.

# Table 1.

*Mean and standard deviation of all variables, and bivariate correlation coefficients (Spearman's ρ) between them.*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Variable** | **x̅** | **DT** | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| 1. AUDIT | 5.42 | 4.14 | - |  |  |  |  |  |  |
| 2. Neuro. | 26.10 | 7.87 | -0.04 | - |  |  |  |  |  |
| 3. Extra. | 28.77 | 7.66 | 0.01 | -0.38\*\* | - |  |  |  |  |
| 4. Aper. | 29.62 | 7.18 | -0.16 | 0.30\* | -0.19 | - |  |  |  |
| 5. Amab. | 27.88 | 5.77 | -0.19 | 0.02 | 0.16 | 0.01 | - |  |  |
| 6. Respo. | 30.73 | 7.47 | -0.38\*\* | -0.06 | -0.18 | 0.14 | 0.03 | - |  |
| 7. BART | 28.29 | 14.77 | 0.09 | -0.17 | 0.23 | 0.05 | -0.17 | -0.01 | - |
| 8. DOSP. | 99.31 | 17.75 | 0.43\*\* | -0.08 | 0.23 | -0.11 | -0.12 | -0.36\*\* | 0.13 |

Note. Neuro..: Neuroticism NEO-FFI. Extra: NEO-FFI Extraversion. Aper: NEO-FFI opening. Amab: NEO-FFI Friendliness. Respo: NEO-FFI Responsibility. DOSP..: DOSPERT-30.

\* *p* < .05, \*\* *p* < .01.

# Table 2.

*Hierarchical multiple regression to predict alcohol consumption.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **B** | **ETB** | **β** | **ΔR²** |
| *Step 1- Personality* |  |  |  | 0.15 |
| Respo | -0.21 | 0.07 | -0.38\* |  |
| *Step 2- Risk taking* |  |  |  | 0.10 |
| Respo | -0.14 | 0.07 | -0.25 |  |
| DOSP | 0.08 | 0.03 | 0.35\* |  |

Note. R² = 0.25 Respo: Responsibility.  DOSP..: DOSPERT-30.

\* *p* < .05.

**Discussion**

In the present study, a linear correlational research was carried out to assess the extent to which risk taking, in objective and subjective terms, and personality, according to the Big Five model, predict alcohol consumption, in terms of risk of problem drinking, in a university population. The general hypothesis is that risk taking, both objective and subjective, will correlate positively with alcohol consumption; and that the factors of extraversion and openness to experience will correlate positively, and the factors of responsibility, neuroticism and agreeableness will correlate negatively with consumption.

What was obtained in our study seems to indicate that there are no differences in alcohol consumption between men and women, which contradicts the results of other studies that advocate that it is men who drink more (Rodriguez et al., 2019). Considering that the internal consistency of the AUDIT was acceptable, we ruled out that this result was due to inconsistencies in the measurement. Thus, a possible explanation for this finding is that our sample was not balanced in terms of sex (36 women and 16 men), in addition to having a small sample size.

In view of the results, our first hypothesis is partially fulfilled, obtaining a significant positive correlation between alcohol consumption and subjective risk taking, but without appreciating a considerable relationship with objective risk taking. That is, a higher self-reported propensity for risk-taking does relate to higher alcohol consumption, whereas behavioral performance on a risk-taking task does not. This apparent disconnect between objective and subjective risk taking can be understood by the principle of directional fractionation, which explains the independence of psychological and physiological systems, where physiological, subjective and behavioral outcomes are independent and therefore do not necessarily have to coincide. However, there are authors who argue that the objective measure of risk taking used (BART) is not a good indicator of overall risk due to its low ecological validity, a limitation of many behavioral tasks (such as the *Iowa Gambling Task*, *Game of Dice Task* or the *Cambridge Gambling Task*, among others) because of their limited ability to reflect real-life situations. Despite finding literature that argues that the BART has acceptable ecological validity (White et al., 2008), perhaps this aspect should be re-evaluated.

The second hypothesis relating personality and alcohol consumption is partially accepted. In this case, only responsibility has been correlated, in a positive sense, with alcohol consumption, something already observed by other authors in their studies (Bogg and Roberts, 2004; Dash et al., 2019; Hong and Paunonen, 2009; Lui et al., 2022). It makes sense when taking into account that some of the facets of responsibility are deliberation, self-discipline and duty, characteristics of a person that will make him or her tend to stay away from alcohol consumption, even more so from binge drinking or risky consumption, due to the harmful effects it entails. The remaining 4 factors have not correlated with alcohol consumption, something that has been seen in previous studies (Booth-Kewley and Vickers, 1994; Hampson et al., 2006; Hong and Paunonen, 2009; Lui et al., 2022; Markey et al., 2003; Mirnics et al., 2021). This may be because other factors, such as environmental or situational factors, are moderating the relationship between personality and alcohol consumption. It could also be due to the need for a larger sample size to demonstrate significant relationships with the other personality factors, given that the studies reviewed had larger sample sizes.

In response to the general objective of finding out to what extent risk-taking and personality factors predict alcohol consumption, risk-taking measured subjectively by self-report was found to have greater predictive value than the personality factors of the Big Five model. This difference could be explained by the close relationship between risk-taking and alcohol consumption, since the latter is considered a specific risk behavior. Meanwhile, the Big Five model encompasses a broader range of personality facets and may be a more general and less specific measure for predicting alcohol consumption.

**Conclusions**

In terms of practical implications, it is expected that our study will provide new and useful information to focus and carry out new consumption prevention campaigns, relevant to the university population. As we have argued, alcohol consumption is caused by situational factors and individual factors that are more stable in the individual. The consumption prevention measures recommended at the European level focus on situational factors. Seeing that there is also an influence of individual factors, especially risk-taking, focusing on these could increase the reach and effectiveness of prevention programs.

Although there are some campaigns that focus on risk perception, which is closely linked to risk taking, these do not seem to be effective, probably because they are aimed at increasing knowledge of the harmful effects of substances and, as we have mentioned, lack of knowledge is not a motivating factor for alcohol consumption. Our findings suggest that attention should be placed on risk taking, specifically on the self-reported propensity of young people, to identify those who are more likely to develop a problematic drinking style and thus create more targeted prevention programs for these individuals. Implementing these preventive strategies in the university environment, along with situational-level action, could lead to a significant decrease in problem drinking rates, promoting a healthier and safer environment for students.

As for future lines of research, we believe that it is particularly relevant to replicate the present study by considering risk taking by domain, instead of a general index. As Nicholson et al. (2006), apart from there being a general risk-seeking disposition, individuals may avoid risk in some areas and seek it in others. Knowing which specific domains correlate with alcohol consumption, and which do not, will contribute to more precise action in terms of prevention measures.

Another relevant line of research would be to analyze the influence of personality in more depth. In addition to the 5 factors we have included in our study, impulsivity and sensation seeking are other personality-related constructs that have been linked to alcohol consumption, being more specific to certain behaviors. Greater knowledge of these factors would also make it possible to be more precise in prevention actions.

Regarding the limitations of the present study, due to the non-probabilistic nature of the sample, where participants were volunteers, representativeness may be limited by both homogeneity and sample size. The 92.31% of the subjects are psychology students and, despite having an initial sample of n=207, the experimental mortality rate was high, probably due to the lack of incentives or rewards, which may have also influenced the way they performed the study tasks. It is also noteworthy that voluntary participation implies a bias in the selection of the sample.

Another limitation of our research lies in the exclusion of participants who use illicit substances. Although this exclusion is methodologically justified, it implies leaving out a representative part of the reality of alcohol consumption among young people, as it is well known that alcohol consumption is often linked to polyconsumption.

**Acknowledgments**

We thank our tutor Dr. David Herrero Fernández for his involvement and support in our project.

**Conflict of interest**

No conflicts of interest in the conduct of the study have been declared by the researchers.

**References**

Alcedo, M. A., Dema, S., Fontanil, Y. y Solís, P. (2014). *Estudio sobre el consumo de alcohol de adolescentes y jóvenes del Concejo de Oviedo.* Concejalía de Juventud del Ayuntamiento de Oviedo. Plan Municipal sobre Drogas.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4ta ed., texto rev.). <https://doi.org/10.1176/appi.books.9780890425596>

Anderson, K. G., Schweinsburg, A. D., Paulus, M. P., Brown, S. A. y Tapert, S. F. (2005). Examining personality and alcohol expectancies using functional magnetic resonance imaging (fMRI) with adolescents. *Journal Of Studies On Alcohol*, *66*(3), 323-331. <https://doi.org/10.15288/jsa.2005.66.323>

Angulo, P. G., Martínez, E. K. H., Puente, L. A. R., Vargas, R. A. C., Mendoza, J. S. y Martínez, J. U. C. (2019). Percepción de riesgo ante el consumo de alcohol y tabaco en estudiantes de Ciencias de la Salud de Saltillo. *Enfermería global, 18*(4), 398-422. <https://doi.org/10.6018/eglobal.18.4.351381>

Barned, C., Rochette, M. y Racine, E. (2021). Voluntary decision-making in addiction: A comprehensive review of existing measurement tools. *Consciousness and Cognition, 91*, 103115.

Blais, A. R., y Weber, E. U. (2006). A domain-specific  risk-taking (DOSPERT) scale for adult populations. *Judgment and Decision Making, 1(*1), 33-47

Bogg, T. y Roberts, B. W. (2004). Conscientiousness and Health-Related Behaviors: A Meta-Analysis of the Leading Behavioral Contributors to Mortality. *Psychological Bulletin*, *130*(6), 887-919. <https://doi.org/10.1037/0033-2909.130.6.887>

Booth-Kewley, S., y Vickers, R. R. (1994). Associations between Major Domains of Personality and Health Behavior. *Journal Of Personality*, *62*(3), 281-298. <https://doi.org/10.1111/j.1467-6494.1994.tb00298.x>

Butler, G., y Montgomery, A. (2004). Impulsivity, risk taking and recreational ‘ecstasy’ (MDMA) use. *Drug And Alcohol Dependence, 76*(1), 55-62. <https://doi.org/10.1016/j.drugalcdep.2004.04.003>

Cordero, A., Pamos, A., Seisdedos, N. (1999). *Inventario de Personalidad Neo Revisado (NEO PI-R), Inventario Neo Reducido de Cinco Factores (NEO-FFI).* TEA Ediciones.

Costa, P. T., Jr. y McCrae, R. R. (1994). Stability and change in personality from adolescence through adulthood. En C. F. Halverson, Jr., G. A. Kohnstamm, y R. P. Martin (Eds.), *The developing structure of temperament and personality from infancy to adulthood* (pp. 139–150). Lawrence Erlbaum Associates, Inc.

Dash, G. F., Slutske, W. S., Martin, N. G., Statham, D. J., Agrawal, A. y Lynskey, M. T. (2019). Big Five personality traits and alcohol, nicotine, cannabis, and gambling disorder comorbidity. *Psychology Of Addictive Behaviors, 33*(4), 420-429. <https://doi.org/10.1037/adb0000468>

Díaz-Castela, M. M., Anguiano-Garrido, B., Muela-Martínez, J. A. (2016). El consumo de drogas en el alumnado de la Universidad de Jaén. *Acción Psicológica, 13*(1), 53-66.

Delgado-Lobete, L., Montes-Montes, R., Vila-Paz, A., Cruz-Valiño, J. M., Gándara-Gafo, B., Talavera-Valverde, M. A., Santos-Del-Riego, S. (2020). Individual and Environmental Factors Associated with Tobacco Smoking, Alcohol Abuse and Illegal Drug Consumption in University Students: A Mediating Analysis. *International journal of environmental research and public health, 17*(9). <https://doi.org/10.3390/ijerph17093019>

Fernández, L. M. L., Megías, A., Catena, A., Perales, J. C., Baltruschat, S. y Cándido, A. (2017). Spanish validation of the Domain-Specific Risk-Taking (DOSPERT-30) Scale. *PubMed*, *29*(1), 111-118. <https://doi.org/10.7334/psicothema2016.132>

Fernie, G., Cole, J. C., Goudie, A. J. y Field, M. (2010). Risk-taking but not response inhibition or delay discounting predict alcohol consumption in social drinkers. Drug And Alcohol Dependence, 112(1-2), 54-61. <https://doi.org/10.1016/j.drugalcdep.2010.05.011>

Frey, R., Pedroni, A., Mata, R., Rieskamp, J. y Hertwig, R. (2017). Risk preference shares the psychometric structure of major psychological traits. *Science Advances*, *3*(10). <https://doi.org/10.1126/sciadv.1701381>

Garrido, J. M. M., y Lorenzo, M. C. A. (2016). El consumo de alcohol en universitarios. Estudio de las relaciones entre las causas y los efectos negativos. *Revista Complutense de Educación, 28*(3), 689-704. <https://doi.org/10.5209/rev_rced.2017.v28.n3.49725>

Gilman, J. M., Calderon, V., Curran, M. T., y Evins, A. E. (2015). Young adult cannabis users report greater propensity for risk-taking only in non-monetary domains. *Drug And Alcohol Dependence, 147*, 26-31. <https://doi.org/10.1016/j.drugalcdep.2014.12.020>

Gonzálvez, M., Espada, J., Guillon-Riquelme, A., Secades, R. y Orgilés, M. (2016). Asociación entre rasgos de personalidad y consumo de sustancias en adolescentes españoles. *Adicciones, 28*(2), 108-115. doi:<http://dx.doi.org/10.20882/adicciones.777>

Gowin, J. L., May, A. C., Wittmann, M., Tapert, S. F., y Paulus, M. P. (2017). Doubling Down: Increased Risk-Taking Behavior Following a Loss by Individuals With Cocaine Use Disorder Is Associated With Striatal and Anterior Cingulate Dysfunction. Biological Psychiatry. *Cognitive Neuroscience And Neuroimaging, 2*(1), 94-103. <https://doi.org/10.1016/j.bpsc.2016.02.002>

Hakulinen, C. y Jokela, M. (2019). Alcohol use and personality trait change: pooled analysis of six cohort studies. *Psychological Medicine, 49*(2), 224-231 <https://doi.org/10.1017/S0033291718000636>

Hampson, S. E., Goldberg, L. R., Vogt, T. y Dubanoski, J. P. (2006). Forty years on: Teachers’ assessments of children’s personality traits predict self-reported health behaviors and outcomes at midlife. *Health Psychology*, *25*(1), 57-64. <https://doi.org/10.1037/0278-6133.25.1.57>

Hicks, B. M., Durbin, C. E., Blonigen, D. M., Iacono, W. G. y McGue, M. (2011). Relationship between personality change and the onset and course of alcohol dependence in young adulthood. *Addiction*, *107*(3), 540-548. <https://doi.org/10.1111/j.1360-0443.2011.03617.x>

Hong, R. Y. y Paunonen, S. V. (2009). Personality traits and health‐risk behaviours in university students. *European Journal of Personality: Published for the European Association of Personality Psychology, 23*(8), 675-696.

Inglés, C. J., Delgado, B., Bautista, R., Torregrosa, M. S., Espada, J. P., García-Fernández, J. M., Hidalgo, M. D. y García-López, L. J. (2007). Factores psicosociales relacionados con el consumo de alcohol y tabaco en adolescentes españoles. *International Journal of Clinical and Health Psychology, 7*(2), 403-420.

Kahneman, D. y Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica, 47*(2), 263-292.

Kuntsche, E., Rehm, J. y Gmel, G. (2004). Characteristics of binge drinkers in Europe. *Social Science y Medicine*, *59*(1), 113-127. <https://doi.org/10.1016/j.socscimed.2003.10.009>

Lauriola, M. y Weller, J. (2018). Personality and Risk: Beyond Daredevils— Risk Taking from a Temperament Perspective. En Raue, M., Lermer, E., Streicher, B. (Eds.) *Psychological Perspectives on Risk and Risk Analysis*. Springer, Cham. <https://doi.org/10.1007/978-3-319-92478-6_1>

Lejuez, C. W., Read, J. P., Kahler, C. W., Richards, J. B., Ramsey, S. E., Stuart, G. L., Strong, D. R. y Brown, R. A. (2002). Evaluation of a behavioral measure of risk taking: The Balloon Analogue Risk Task (BART). *Journal Of Experimental Psychology: Applied*, *8*(2), 75-84. <https://doi.org/10.1037/1076-898x.8.2.75>

Lui, P. P., Chmielewski, M., Trujillo, M., Morris, J. y Pigott, T. D. (2022). Linking Big Five Personality Domains and Facets to Alcohol (Mis)Use: A Systematic Review and Meta-Analysis. *Alcohol and alcoholism (Oxford, Oxfordshire), 57*(1), 58–73. <https://doi.org/10.1093/alcalc/agab030>

MacPherson, L., Magidson, J. F., Reynolds, E. K., Kahler, C. W. y Lejuez, C. W. (2010). Changes in Sensation Seeking and Risk‐Taking Propensity Predict Increases in Alcohol Use Among Early Adolescents. *Alcoholism, Clinical And Experimental Research, 34*(8), 1400-1408. <https://doi.org/10.1111/j.1530-0277.2010.01223.x>

Markey, C. N., Markey, P. M. y Tinsley, B. J. (2003). Personality, puberty, and preadolescent girls’ risky behaviors: Examining the predictive value of the Five-Factor Model of personality. *Journal Of Research In Personality*, *37*(5), 405-419. <https://doi.org/10.1016/s0092-6566(03)00014-x>

Mills, B. A., Reyna, V. F. y Estrada, S. (2008). Explaining Contradictory Relations Between Risk Perception and Risk Taking. *Psychological Science*, *19*(5), 429-433. <https://doi.org/10.1111/j.1467-9280.2008.02104.x>

Mirnics, Z., Kövi, Z., Tanyi, Z. y Grezsa, F. (2021). Adolescent Drug Use, Relational Variables and Personality Factors. *Psychiatria Danubina, 33*(4), 656–665.

Montero, I. y León, O. (2007). Guía para nombrar los estudios de investigación en psicología. International Journal of Clinical and Health Psychology, 7, 847-862.

Nicholson, N., Soane, E., Fenton‐O'Creevy, M., y Willman, P. (2006). Personality and domain‐specific risk taking. *Journal of Risk Research, 8*(2), 157-176. <https://doi.org/10.1080/1366987032000123856>

Observatorio Español de las Drogas y las Adicciones (OEDA). (2021). *Monografía alcohol 2021. Consumo y consecuencias*. Delegación del Gobierno para el Plan Nacional sobre Drogas. Madrid: Ministerio de Sanidad.

Observatorio Español de las Drogas y las Adicciones (OEDA). (2023). *Informe 2023. Alcohol, tabaco y drogas ilegales en España*. Observatorio Español de las Drogas y las Adicciones. Delegación del Gobierno para el Plan Nacional sobre Drogas. Madrid: Ministerio de Sanidad.

Organización Mundial de la Salud (OMS). (2022). *Estadísticas Sanitarias Mundiales 2022: monitoreando la salud para los ODS, objetivo de desarrollo sostenible [World health statistics 2022: monitoring health for the SDGs, sustainable development goals].* Ginebra: Organización Mundial de la Salud.

Organización Mundial de la Salud (OMS). (2023). *World health statistics 2023: monitoring health for the SDGs, Sustainable Development Goals.* Ginebra: Organización Mundial de la Salud.

Reyna, V. F. y Farley, F. (2006). Risk and rationality in adolescent decision making: Implications for theory, practice, and public policy. *Psychological Science in the Public Interest, 7*, 1–44.

Rodríguez, P., Carmona, J., Hidalgo, P., Cobo, A. I. y Rodríguez, M. A. (2019). Evolution of alcohol and tobacco consumption in young people in Spain, after the law 42/2010 against smoking: 2011-2014. *Adicciones, 31*(4), 274-283.

Rubio, G., Bermejo,  J., Caballero, M.C., Santo-Domingo, J. (1998). Validación de la prueba para la identificación de trastornos por uso de alcohol (AUDIT) en atención primaria. *Revista Clínica Española, 198* (1), 499-506.

Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R. y Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption-II. *Addiction*, *88*(6), 791-804. <https://doi.org/10.1111/j.1360-0443.1993.tb02093.x>

Sitkin, S. B. y Pablo, A. L. (1992). Reconceptualizing the Determinants of Risk Behavior. *The Academy of Management Review, 17*(1), 9–38. <https://doi.org/10.2307/258646>

Skeel, R. L., Pilarski, C., Pytlak, K. y Neudecker, J. (2008). Personality and performance-based measures in the prediction of alcohol use. *Psychology Of Addictive Behaviors, 22*(3), 402-409. <https://doi.org/10.1037/0893-164x.22.3.402>

Smith, E. A. y Benning, S. D. (2021). The assessment of physical risk taking: Preliminary construct validation of a new behavioral measure. *PloS one, 16*(10), e0258826. <https://doi.org/10.1371/journal.pone.0258826>

Trimpop, R. M. (1994). *The Psychology of Risk Taking Behavior* (107.a ed.) [On-line]. North-Holland.

Trull, T. J. y Sher, K. J. (1994). Relationship between the five-factor model of personality and Axis I disorders in a nonclinical sample. *Journal Of Abnormal Psychology*, *103*(2), 350-360. <https://doi.org/10.1037/0021-843x.103.2.350>

Urday-Concha, F., Gonzáles-Vera, C., Peñalva, L. J., Pantigoso, E. L., Cruz, S. H. y Pinto-Oppe, L. (2019). Percepción de riesgos y consumo de drogas en estudiantes universitarios de enfermería, Arequipa, Perú. *Enfermería Actual de Costa Rica, 36*.

Uribe, J. I., Verdugo, J. C. y Zacarías, X. (2011). Relación entre percepción de riesgo y consumo de drogas en estudiantes de bachillerato. *Psicología y salud, 21*(1), 47-55.

White, T. L., Lejuez, C. W. y De Wit, H. (2008). Test-retest characteristics of the Balloon Analogue Risk Task (BART). *Experimental And Clinical Psychopharmacology, 16*(6), 565-570. <https://doi.org/10.1037/a0014083>