

Substance abuse and its relationship to emotional dependence, attachment and emotional regulation in adolescents

Janire Momeñe^{1,2}, Ana Estévez^{1,*}, Ana María Pérez-García², Javier Jiménez¹,
María Dolores Chávez-Vera^{3,4}, Leticia Olave⁴, and Itziar Iruarrizaga⁴

1 Universidad de Deusto (Spain).

2 Universidad Nacional de Educación a Distancia (Spain).

3 Universidad Técnica de Manabí (Ecuador).

4 Universidad Complutense de Madrid (Spain).

Título: El consumo de sustancias y su relación con la dependencia emocional, el apego y la regulación emocional en adolescentes.

Resumen: El consumo de sustancias entre los adolescentes supone un grave problema social que podría relacionarse con la dependencia emocional, estilos de apego y dificultades en la regulación emocional. De esta forma, los objetivos del presente estudio fueron analizar la relación y el papel predictivo de la dependencia emocional, apego y regulación emocional sobre el consumo de sustancias el último mes. Además, se analizaron las diferencias en función del género y edad en todas las variables del estudio. Igualmente, se comprobó el papel mediador de la regulación emocional y los estilos de apego en la relación entre la dependencia emocional y el consumo de sustancias. La muestra empleada estaba compuesta por 1.533 adolescentes escolarizados, 826 hombres y 707 mujeres con edades entre los 13 y los 22 años ($M = 15.76$, $DT = 1.25$). Los resultados mostraron una relación positiva entre el consumo de sustancias y la dependencia emocional. Del mismo modo, las personas consumidoras de sustancias manifestaron relaciones positivas con las dificultades de regulación emocional, así como, con los estilos de apego de permisividad parental, autosuficiencia y rencor contra los padres y traumatismo infantil y relaciones negativas con la seguridad, preocupación familiar, interferencia parental y valor a la autoridad parental.

Palabras clave: Consumo de sustancias. Dependencia emocional. Apego. Regulación emocional. Adolescentes.

Abstract: Substance use among adolescents is a serious social problem that may be related to emotional dependence, attachment styles and difficulties in emotional regulation. Thus, the objectives of this study were to analyse the relationship and predictive role of emotional dependence, attachment and emotional regulation on substance use in the last month. In addition, gender and age differences were analysed in all variables of the study. The mediating role of emotional regulation and attachment styles in the relationship between emotional dependence and substance use was also verified. The sample used was made up of 1.533 schooled adolescents, 826 men and 707 women with ages ranging from 13 to 22 years ($M = 15.76$, $SD = 1.25$). The results showed a positive relationship between substance use and emotional dependence. Similarly, substance users showed positive relationships with the difficulties of emotional regulation, as well as, with the attachment styles of parental permissiveness, self-sufficiency and resentment against parents and child trauma, and negative relationships with secure attachment, family concern, parental interference and value to parental authority.

Keywords: Substance use. Emotional dependence. Attachment. Emotional regulation. Adolescents.

Introduction

Substance use disorder is of great social concern and is defined as a dependence on substances that affects the central nervous system and brain functions, producing alterations in behaviour, perception, judgement and emotions (Rivera-Olmos & Parra-Berna, 2016). The effects of drugs are diverse depending on the type of drug and the amount or frequency with which it is consumed (Hombre, 2017). They can produce physiological and psychological disorders, impairment of will and social relations (Fernández-Artamendi, 2018; Villegas, 2017) and poor school and work performance (Merchán et al., 2017).

Gender inequality has become increasingly entrenched in the area of drug dependence. There has been an increase in drug use among women, but drug use does not have the same meaning for men and women, nor is it valued or judged in the same way by others. While among men drug use is perceived as a natural, socially and culturally accepted behaviour, except in extreme cases, among women it chal-

lenges dominant social values. Therefore, women with drug addiction receive a greater degree of social rejection, resulting in less family and social support, leading to the concealment of the problem (Sanchez, 2013).

Previous studies have indicated that emotional dependence may predict or be related to drug use (Barbarias, et al., 2019). Both problems reflect great similarities, such as low self-esteem, negative self-concept, feelings of euphoria, uncontrollable desire, sadness and anhedonia. In this line, previous studies suggest that certain brain regions involved in substance dependence are also involved in passionate love. In both love and substance addiction, dopamine encodes the value of pleasure. Therefore, love and drugs are powerful pleasure modulators of dopamine flow (Reynaud, 2010). However, the relationship between substance use and emotional dependence must be further studied (González-Bueso et al., 2016).

On the other hand, people with emotional dependence present a need for affection and continuous and excessive contact by the couple (Momeñe, Jáuregui & Estévez, 2017). They prioritize it over anything else and assume behaviours of submission, which can be a perpetuating factor of violent relationships (Momeñe & Estévez, 2018). In addition, they show an intense terror of abandonment or rejection of their partner due to the loneliness that this would entail, they ide-

*** Correspondence address [Dirección para correspondencia]:**

Ana Estévez, Avda. de las Facultades, 24, 48007 Bilbao (Spain).

E-mail: aestevez@deusto.es

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alize it and present low self-esteem and an extreme need to please others (Castelló, 2012). They also show great possessiveness, inability to break the relationship despite being unsatisfactory, pseudosymbiosis, that is, not feeling complete without the partner (Moral & Sirvent, 2009) and low resilience (Momeñe & Estévez, 2019). Similarly, they experience an abstinence syndrome when separating from their partner, even in the separations required by everyday life, so called because of its analogy with drug addictions (Castelló, 2015).

As for attachment styles, they have also been pointed out as predictors of substance use (Barbarias et al., 2019). Bowlby (1986), the creator of the attachment theory, conceptualizes it as a way of creating affective bonds towards certain people that human beings have. Furthermore, he uses it as a way of approaching the explanation of the wide variability of emotional problems, as well as, of personality disorders as a result of a non-conforming separation or affective loss (Ortiz & Marrone, 2002). In this way, it would be a mechanism acquired by the human being from very early ages as a means of subsistence, first with the parents and progenitors, and later, with all kinds of equals and support networks such as friends or partners. Thus, the establishment of an insecure attachment during childhood could explain the difficulties that substance-dependent people have in abandoning their consumption (de Lucas & Montañés, 2006).

Likewise, the style of attachment established during childhood may influence the acquisition of an adequate capacity to regulate negative affect in adulthood (Hervas & Vázquez, 2006). Emotional regulation is defined as a process that involves the monitoring, evaluation and modification of one's emotional reactions in order to achieve personal goals (Marín et al., 2012). Despite this, some people have difficulty in controlling, identifying and describing emotions (Hexel, 2003). Previous studies have linked difficulties in emotional regulation to the risk of relapses into drug use (Blanco-Álvarez & Jiménez-Morales, 2015). It has also been pointed out that emotional regulation may be an important factor in the use and abuse of substances among adolescents (Simons & Carey, 2002).

Due to the scarce scientific research that addresses the relationship between substance use and emotional dependence, as well as, the relationship of both problems with attachment styles and difficulties in regulating emotions, it is relevant to study them. Furthermore, there are no studies that relate the different types of substance consumption to these problems, but rather the consumption of substances is analysed in a global way. In this way, the objectives of the present study have been, on the one hand, to analyse the relationship between substance consumption and emotional dependence, difficulties in the emotional regulation and attachment styles, as well as, to analyse the predictive role of these last three in substance consumption. Likewise, the differences according to gender and age were analysed in all the variables of the study. Finally, the mediating role of difficulties in emotional regulation and attachment styles in the rela-

tionship between emotional dependence and substance use was tested.

Method

Participants

The sample was composed of 1.533 adolescents in the tenth grade of basic, first, second and third year of high school, of whom 826 were males and 707 females, with ages ranging from 13 to 22 years ($M = 15.76$, $SD = 1.25$). They belonged to twelve Fiscal Educational Units from the different urban (60%) and rural (40%) sociodemographic sectors of the Portoviejo Canton in the Province of Manabí of the Republic of Ecuador. Ecuador's official agencies, currently known as the Technical Secretariat of Drugs (SETED), were used to obtain the sample. The sample size was calculated taking into account both the confidence level of the sample and the relationship with the margin of error or variation between the results obtained in a sample and its inference to the population. The confidence level used was .95 with a margin of error criterion of .015. Likewise, each educational unit had a selection directly proportional to the number of classes in the Tenth Grade of Basic General Education (EGB) and the Unified General Baccalaureate (BGU).

Procedure

In order to carry out the study, parents and/or guardians of the adolescents who completed the questionnaires were given informed consent, and were also provided with information about the rules for completing the questionnaire, its duration and aspects to be evaluated, the voluntary nature of the study, the confidentiality and anonymity of the data obtained, and the telephone number and e-mail address of the reference researchers so that they could be contacted. The data collection was in pencil and paper format and the researcher remained in the classroom with the students, allowing the teachers to remain if requested. The students who participated in the research were given a certificate of participation as a gift of appreciation, as well as a pen.

This study was conducted following the ethical principles of the Declaration of Helsinki (World Medical Association, 2013).

Instruments

ESTUDES (Ministerio de Sanidad, 2016) is a survey on drug use in Secondary Education in Spain, included in the National Plan on Drugs. Every two years since 1994, the National Plan on Drugs has applied this survey on drug use to Secondary Education students throughout Spain. It evaluates through 103 items the situation and trends of drug use and other addictions, consumption patterns, associated factors and opinions and attitudes towards drugs of Secondary School students aged 14-18.

Scale of emotional dependence in the courtship of young people and adolescents -DEN (Urbiola, Estévez & Iraurgi, 2014). The scale is made up of 12 items structured into 4 subscales: *avoidance of being alone*, refers to all those actions that the dependent person carries out to avoid being alone; *need for exclusivity*, refers to the need for her partner to be available only to her; *need to please*, consists of carrying out actions in order to please the other person, leaving herself behind; *asymmetric relationship*, refers to the subordinate nature of the relationship. The answer is given using a Likert-type scale of 6 points, from 0 ("Never") to 5 ("Always"), and to complete the questionnaire it is essential to have had at least one dating relationship of at least one month's duration.

In relation to internal consistency, he obtained a Cronbach alpha of .82. In the present study, Cronbach's alpha coefficient for the total scale was .87 (*avoid being alone* $\alpha = .59$; *need for exclusivity* $\alpha = .73$; *need to please* $\alpha = .66$; *asymmetric relationship* $\alpha = .59$).

Scale of Difficulties in Emotional Regulation -DERS (Gratz & Roemer, 2004). The Spanish adaptation has been used in Spanish adolescents of Gómez-Simón, Penelo & de la Osa (2014). The scale consists of 36 items answered in a Likert-type format with five response options from 0 ("Almost never") to 5 ("Almost always"), evaluating six emotional regulation deficits: *lack of emotional awareness*, measures the difficulties in admitting emotional states, as well as attending to such emotions; *difficulties in impulse control*, refers to the difficulties in controlling certain behaviours caused by experiencing negative emotions; *lack of emotional acceptance*, consists of showing a negative emotional response to a negative primary emotional stimulus; *interference in goal-directed behaviours*, evaluates the affectation or difficulty of concentration after experiencing negative emotions; *lack of emotional clarity*, measures the difficulty or lack of clarity when it comes to understanding or knowing one's emotions; *limited access to emotional regulation strategies*, measures the perception of impossibility when it comes to modifying a negative emotional state. Most of the items are written in such a way that the higher the score, the greater the deficit in the regulatory component evaluated, with the exception of 11 items written inversely. Once the inverse items have been recoded, the higher the score obtained, the greater the deficit in emotional regulation.

It presents good internal consistency, obtaining a Cronbach's Alpha of .88 on the total scale and between .71 and .84 on the subscales, except for *lack of emotional awareness* ($\alpha = .62$). In the present study the Cronbach's alpha coefficient for the total scale was .82 (*lack of emotional awareness* $a = .71$; *difficulties in impulse control* $\alpha = .69$; *lack of emotional acceptance* $a = .85$; *interference in goal-directed behaviours* $a = .52$; *lack of emotional clarity* $a = .63$; *limited access to emotional regulation strategies* $a = .66$).

Individual relationship models (Pierrehumbert et al., 1996). The reduced Spanish version has been used (Balluerka, Lacasa, Gorostiaga, Muela & Pierrehumbert, 2011). It evaluates representations of attachment, allowing both past and present attachment experiences and family functioning to be

assessed. It is made up of 32 items that must be answered following a Likert-type format with five response options ranging from 1 ("Strongly agree") to 5 ("Strongly disagree"). The items are distributed in seven scales, of which five refer to the representations of attachment (*security: availability and support of attachment figures, family concern, parental interference, self-sufficiency and resentment against parents, and child trauma*), and the other two refer to family structure (*value of parental authority and parental permissiveness*). The scale *security: availability and support of the attachment figures*, evaluates the perception of having felt and feeling loved by the attachment figures, having the possibility of trusting them and requiring help from them in case of need. The scale of *family concern* refers to intense anxiety and concern for the attachment figures. The scale of *parental interference* refers to overprotection in childhood, to being fearful and worried about being abandoned. The scale *value of parental authority*, measures the positive evaluation made towards the family values of authority and hierarchy, while, against it, the scale of *parental permissiveness*, measures the perception of having had a lack of limits. The scale of *self-sufficiency and resentment against parents*, evaluates the rejection of feelings of dependence and emotional reciprocity and resentment towards loved ones. Finally, the scale of *childhood trauma* refers to the perception of having suffered lack of availability, violence and threats from attachment figures during childhood.

It presents an adequate internal consistency, except for the subscale of *parental permissiveness*, showing a Cronbach's alpha coefficient of between .60 and .85. In the present study Cronbach's alpha is .90 for the full scale (*security: availability and support of attachment figures* $a = .90$; *family concern* $a = .85$; *parental interference* $a = .71$; *value of parental authority* $a = .83$; *parental permissiveness* $a = .68$; *self-sufficiency and resentment against parents* $a = .69$; *childhood trauma* $a = .83$).

Data analysis

First, bivariate relationships between substance use and emotional dependence, difficulties in emotional regulation, and attachment styles were analysed through the Pearson r . Secondly, a multiple step regression was conducted to analyse the predictive role of emotional dependence, emotional regulation difficulties, and attachment styles on substance use. Thirdly, an analysis of gender differences in substance use, emotional dependence, difficulties in emotional regulation, and attachment styles was conducted using the Student t . The size of the differences was obtained through Cohen's d (1992), whose parameters indicate that values below .20 would be considered small, around .50 medium and above .80 large. Fourth, age-dependent differences in study variables were analysed using one-factor ANOVA. In addition, Tukey's method was used to analyse differences in means between established age groups in pairs. Finally, two partial mediation analyses were carried out, the first to check the mediating role of difficulties in emotional regulation and the second to check the mediating role of attachment styles, in

the relationship between substance use and emotional dependence.

Results

First, the relationship between substance use in the last month and emotional dependence, emotional regulation difficulties, and attachment styles was analysed (Table 1).

The frequency of consumption of tobacco, alcohol, hashish or marijuana, cocaine base and powder, GHB or liquid ecstasy, ecstasy, amphetamines or speed, hallucinogens,

heroin and volatile inhalants were positively related to emotional dependence in a statistically significant way.

Regarding attachment styles, it is worth noting how security, family concern, parental interference and value of parental authority were negatively and statistically significantly related to substance use. However, the attachment styles of parental permissiveness, self-sufficiency and resentment against parents, and childhood trauma had positive relationships.

In terms difficulties of emotional regulation, difficulties in impulse control, lack of emotional acceptance, interference in goal-directed behaviours, lack of emotional clarity, and limited access to emotional regulation strategies, obtained positive relationships with substance use.

Table 1. Correlation between substance use and emotional dependence, difficulties in emotional regulation and attachment styles.

	1	2	3	4	5	6	7	8	9	10	11	12	13
Consumption last 30 days: frequency													
Tobacco	.09**	-.16**	-.11**	-.07**	-.15**	.03	.02	.03	.07**	.02	-.01	.04	.03
Alcohol	.12**	-.12**	-.08**	.01	-.11**	.08**	-.03	.06*	.10**	.06*	.03	.05	.08**
Wine/Champagne or cava (working days)	.07	-.12*	-.13*	-.09	-.16*	.04	.08	.04	.10	.19**	.14*	.09	.16**
Beer/Cider (working days)	.00	-.09	-.06	-.04	-.11*	-.02	-.00	-.03	.02	.00	-.02	.02	.02
Appetizers/vermouth (working days)	.15	.04	.08	.09	.00	.05	.11	.12	.02	.11	.16	.14	.12
Combinations/cubates (working days)	.04	-.01	-.01	-.01	-.09	.08	.06	.03	.03	.09	.12	.18*	.02
Fruit liqueurs (working days)	.19**	-.02	-.03	.02	-.07	.02	-.01	.05	.23**	.17*	.13*	.10	.13*
Hard liquor (working days)	.06	-.04	-.07	-.09	-.06	-.04	.03	.05	.14*	.08	.12	.11	.09
Wine/champagne or cava (weekends)	.05	-.16**	-.16**	-.06	-.14**	.03	-.05	.03	.02	.08*	.05	-.00	.05
Beer/Cider (weekends)	.08*	-.1**	-.12**	-.07*	-.10**	-.04	-.09**	-.05	.02	.02	-.00	.01	.01
Fruit liqueurs (weekends)	.15**	-.14**	-.18**	-.09*	-.15**	-.00	-.03	-.00	.05	.07	.00	.07	.04
Hard liquor (weekends)	.08	-.07	-.07	-.11*	-.10*	-.05	-.05	-.01	-.02	.03	.06	-.02	.01
Tranquilizers/sedatives or sleeping pills	.07**	-.13**	-.09**	-.03	-.12**	.02	.00	.03	.08**	.08**	-.00	.09**	.07**
Over-the-counter tranquilizers/sedatives or sleeping pills	.09**	-.13**	-.11**	-.06*	-.15**	.02	.00	.02	.10**	.06*	-.01	.09**	.06*
Hashish or marijuana	.12**	-.14**	-.13**	-.03	-.16**	.04	-.01	.06*	.08**	.05*	.01	.07**	.07**
Cocaine in base	.10**	-.11**	-.09**	-.02	-.14**	.08**	-.00	.02	.06*	.06*	-.01	.07**	.06*
Cocaine powder	.11**	-.1**	-.07**	.01	-.12**	.06*	.00	.00	.04	.02	-.01	.07**	.05*
GHB or liquid ecstasy	.08**	-.09**	-.06*	-.01	-.11**	.08**	.00	.03	.03	.04	-.01	.08**	.02
Ecstasy	.09**	-.08**	-.06*	-.04	-.11**	.05	.01	-.00	.05	.05	.00	.07**	.05
Amphetamines or speed	.06*	-.06*	-.04	-.00	-.10**	.09**	.01	-.02	.04	.03	-.01	.05	.04
Hallucinogens	.10**	-.07**	-.04	.00	-.09**	.06*	.01	.01	.04	.06*	.00	.05	.05
Heroin	.10**	-.09**	-.06*	-.03	-.12**	.07**	.00	-.00	.08**	.07**	-.00	.08**	.08**
Volatile inhalants	.10**	-.12**	-.07**	-.02	-.14**	.08**	.02	.04	.08**	.07**	.01	.07**	.07**
Consumption last 30 days: quantity													
Beer/Cider (working days)	.21**	.01	-.05	-.01	-.01	-.04	-.07	.06	-.05	-.03	-.08	.02	-.03
Hard liquor (working days)	.13	-.03	.04	-.04	-.02	-.20**	-.16*	-.00	-.01	.01	-.03	.02	-.03
Wine/champagne or cava (weekends)	.09*	-.00	-.04	.03	-.05	.09	-.05	.04	-.01	.05	-.02	.03	.04
Beer/Cider (weekends)	.17**	.00	-.03	.05	-.02	.05	-.05	.06	.02	.07*	-.02	.07*	.07
Fruit liqueurs (weekends)	.09*	-.04	-.07	-.02	-.12**	-.01	-.10*	.01	-.05	.00	-.03	.07	.03
Hard liquor (weekends)	.09*	-.03	.01	.00	-.05	.02	-.08	.03	.01	.02	.01	.04	.03
5 or more glasses of alcohol on the same occasion	.12**	-.12**	-.08**	-.02	-.12**	.05*	.02	.11**	.10**	.05	.02	.08**	.07**
Get drunk	.18**	-.15**	-.13**	-.05*	-.17**	.02	-.05	.08**	.07**	.07**	.01	.09**	.10**

Note 1: 1. Emotional dependence; 2. Security; 3. Family concerns; 4. Parental interference; 5. Value to parental authority; 6. Parental permissiveness; 7. Self-sufficiency and resentment against parents; 8. Childhood trauma; 9. Drive; 10. Non-acceptance; 11. Goals; 12. Clarity; 13. Strategies.

Note 2: * $p < .05$; ** $p < .001$.

Secondly, the predictive role of emotional dependence, difficulties of emotional regulation and attachment styles on substance use in the past 30 days was tested. The results obtained are shown below in a statistically significant way (Table 2).

The results reflected significant associations between emotional dependence and the frequency of consumption of

tobacco, alcohol, tranquilizers/sedatives or sleeping pills without medical prescription, hashish or marijuana, cocaine base and powder, GHB or liquid ecstasy, ecstasy, amphetamines or speed, hallucinogens, heroin and volatile inhalants.

With respect to attachment styles, the value of parental authority and parental permissiveness should be emphasized because they predominate in association with substance use.

On the other hand, in reference to difficulties in emotional regulation, difficulties in impulse control, as well as, interference in goal-directed behaviours stood out when associated with substance consumption.

Table 2. The predictive role of emotional dependence, emotional regulation difficulties and attachment styles on substance use.

Predictor variable	B	β	t	Sig.	Criterion variable
					Substance use last 30 days: frequency
Emotional dependence	.00	.07	2.85	.00	Tobacco
Attachment styles					
Security	-.01	-.09	-2.38	.02	Tobacco
Value to parental authority	-.02	-.09	-2.44	.01	Tobacco
Self-sufficiency and resentment against parents	.01	.07	2.18	.03	Tobacco
Difficulties in emotional regulation					
Drive	.01	.09	2.56	.01	Tobacco (R = .22; R ² = .05; R ² corrected = .04)
Emotional dependence	.02	.09	3.50	.00	Alcohol
Attachment styles					
Security	-.02	-.08	-2.05	.04	Alcohol
Parental permissiveness	.05	.08	2.68	.01	Alcohol
Self-sufficiency and resentment against parents	-.04	-.06	-2.11	.03	Alcohol
Difficulties in emotional regulation					
Drive	.03	.08	2.13	.03	Alcohol (R = .22; R ² = .05; R ² corrected = .04)
Difficulties in emotional regulation					
Non-acceptance	.01	.08	2.05	.04	Tranquilizers/sedatives or sleeping pills
Goals	-.02	-.09	-2.58	.01	Tranquilizers/sedatives or sleeping pills (R = .19; R ² = .04; R ² corrected = .03)
Emotional dependence	.01	.07	2.72	.01	Tranquilizers/sedatives or sleeping pills over-the-counter
Attachment styles					
Value to parental authority	-.03	-.09	-2.52	.01	Tranquilizers/sedatives or sleeping pills over-the-counter
Difficulties in emotional regulation					
Drive	.02	.12	3.17	.00	Tranquilizers/sedatives or sleeping pills over-the-counter
Goals	-.03	-.11	-3.20	.00	Tranquilizers/sedatives or sleeping pills over-the-counter
Clarity	.02	.06	2.08	.04	Tranquilizers/sedatives or sleeping pills over-the-counter (R = .22; R ² = .05; R ² corrected = .04)
Emotional dependence	.01	.10	3.77	.00	Hashish or Marijuana
Attachment styles					
Family concerns	-.02	-.07	-2.05	.04	Hashish or Marijuana
Value to parental authority	-.07	-.11	-3.01	.00	Hashish or Marijuana (R = .23; R ² = .05; R ² corrected = .05)
Emotional dependence	.01	.08	2.97	.00	Cocaine in base
Attachment styles					
Value to parental authority	-.05	-.12	-3.23	.00	Cocaine in base
Parental permissiveness	.03	.09	3.13	.00	Cocaine in base (R = .21; R ² = .05; R ² corrected = .04)
Emotional dependence	.01	.09	3.65	.00	Cocaine powder
Attachment styles					
Parental interference	.02	.07	2.03	.04	Cocaine powder
Value to parental authority	-.04	-.10	-2.68	.01	Cocaine powder
Parental permissiveness	.02	.07	2.25	.02	Cocaine powder (R = .20; R ² = .04; R ² corrected = .03)
Emotional dependence	.00	.06	2.38	.02	GHB or liquid ecstasy
Attachment styles					
Value to parental authority	-.03	-.08	-2.15	.03	GHB or liquid ecstasy
Parental permissiveness	.03	.09	3.14	.00	GHB or liquid ecstasy (R = .18; R ² = .03; R ² corrected = .02)
Emotional dependence	.01	.08	2.90	.00	Ecstasy
Attachment styles					
Value to parental authority	-.03	-.09	-2.36	.02	Ecstasy
Parental permissiveness	.02	.07	2.40	.02	Ecstasy (R = .17; R ² = .03; R ² corrected = .02)

Predictor variable	B	β	<i>t</i>	Sig.	Criterion variable
					Substance use last 30 days: frequency
Emotional dependence	.00	.05	1.99	.04	Amphetamines or speed
Attachment styles					
Value to parental authority	-.03	-.10	-2.81	.00	Amphetamines or speed
Parental permissiveness	.03	.11	3.61	.00	Amphetamines or speed
Childhood trauma	-.01	-.08	-2.78	.00	Amphetamines or speed
					(<i>R</i> = .18; <i>R</i> ² = .03; <i>R</i> ² corrected = .02)
Emotional dependence	.01	.09	3.45	.00	Hallucinogens
Attachment styles					
Value to parental authority	-.03	-.09	-2.32	.02	Hallucinogens
Parental permissiveness	.02	.07	2.26	.02	Hallucinogens
Difficulties in emotional regulation					
Non-acceptance	.01	.08	2.15	.03	Hallucinogens
					(<i>R</i> = .17; <i>R</i> ² = .03; <i>R</i> ² corrected = .02)
Emotional dependence	.01	.09	3.34	.00	Heroin
Attachment styles					
Value to parental authority	-.04	-.10	-2.82	.00	Heroin
Parental permissiveness	.03	.09	2.94	.00	Heroin
Childhood trauma	-.01	-.06	-2.20	.03	Heroin
Difficulties in emotional regulation					
Goals	-.02	-.08	-2.37	.02	Heroin
					(<i>R</i> = .21; <i>R</i> ² = .04; <i>R</i> ² corrected = .03)
Emotional dependence	.01	.07	2.80	.00	Volatile Inhalants
Attachment styles					
Security	-.01	-.08	-2.04	.04	Volatile Inhalants
Value to parental authority	-.05	-.11	-2.90	.00	Volatile Inhalants
Parental permissiveness	.03	.09	2.94	.00	Volatile Inhalants
					(<i>R</i> = .21; <i>R</i> ² = .04; <i>R</i> ² corrected = .03)

Third, gender differences in substance use in the last month, emotional dependence, difficulties in emotional regulation, and attachment styles were analysed. The data obtained in a statistically significant way are shown in Table 3.

The results showed, that men reported higher scores compared to women in emotional dependence, in the difficulty of emotional regulation of clarity, in the frequency of consumption of wine/champagne or cava and fruit liqueurs in working days, as well as, in the frequency of use of tobacco, alcohol, tranquilizers/sedatives or sleeping pills with and without a prescription, hashish or marijuana, cocaine base and powder, GHB or liquid ecstasy, ecstasy, amphetamines

or speed, hallucinogens, heroin and volatile inhalants. In terms of amount of use, men showed higher scores for using wine/champagne or cava and appetizers/vermouth on weekends, consuming 5 or more glasses of alcohol on a single occasion and getting drunk.

On the other hand, women reported higher scores compared to men on difficulties in emotional regulation of non-acceptance, goals and strategies, as well as, on attachment styles of safety, family concern and value to parental authority.

The effect size was small in all of them, except for emotional dependence, which was medium.

Table 3. Gender differences in substance use, emotional dependence, difficulties in emotional regulation and attachment styles.

Variables	Women (<i>n</i> = 707)		Men (<i>n</i> = 826)		<i>t</i>	Size of the effect (<i>d</i>)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Substance use last 30 days: frequency						
Tobacco	.18	.62	.30	.81	3.18**	.10
Alcohol	1.48	1.95	2.05	2.31	5.22**	.13
Wine/champagne or cava (working days)	2.33	1.90	2.76	2.20	1.69*	.11
Fruit liqueurs (working days)	2.36	1.87	2.99	2.10	2.38*	.17
Tranquilizers/sedatives or sleeping pills	.26	.99	.32	1.06	1.23*	.03
Tranquilizers/sedatives or sleeping pills over-the-counter	.24	.96	.32	1.13	1.50*	.04
Hashish or marijuana	.49	1.41	1.10	2.00	6.99**	.18
Cocaine in base	.18	.95	.37	1.33	3.20**	.10
Cocaine powder	.16	.79	.35	1.23	3.81**	.10
GHB or liquid ecstasy	.12	.72	.23	1.02	2.48**	.10
Ecstasy	.10	.66	.26	1.10	3.64**	.10

Variables	Women (<i>n</i> = 707)		Men (<i>n</i> = 826)		<i>t</i>	Size of the effect (<i>d</i>)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Substance use last 30 days: frequency						
Amphetamines or speed	.13	.80	.24	1.04	2.51**	.10
Hallucinogens	.11	.67	.21	.94	2.49**	.10
Heroin	.16	.88	.30	1.22	2.61**	.10
Volatile inhalants	.21	1.07	.36	1.33	2.54**	.10
Substance use last 30 days: amount						
Wine/champagne or cava (weekends)	10.15	7.81	13.43	9.66	4.35**	.19
Appetizers/vermouth (weekends)	5.51	4.60	8.28	9.72	2.74**	.19
5 or more glasses of alcohol on the same occasion	.66	1.24	1.00	1.69	4.50**	.12
Get drunk	.77	1.37	1.13	1.58	4.70**	.12
Emotional dependence						
Emotional dependence	11.11	10.16	16.83	12.18	10.02**	.25
Difficulties in emotional regulation						
Non-acceptance	16.47	7.23	15.82	6.52	-1.84*	.05
Goals	13.86	4.07	13.34	3.66	-2.59**	.10
Clarity	13.08	3.79	13.27	3.22	1.07**	.03
Strategies	16.91	5.73	16.56	4.97	-1.24**	.03
Attachment styles						
Security	28.72	6.24	27.63	6.95	-3.23**	.10
Family concerns	23.59	5.08	21.6	5.79	-7.19**	.18
Value to parental authority	13.29	2.38	12.42	3.06	-6.22**	.16

Note: **p* < .05; ***p* < .001.

Next, age-related differences in substance use, emotional dependence, difficulties of emotional regulation, and attachment styles were assessed. The participants were distributed in the following age groups: Group 1 (13-14 years), Group 2 (15 years), Group 3 (16 years), Group 4 (17 years) and Group 5 (18-22 years). The results obtained are shown below in a statistically significant way (Table 4).

The results obtained reflected that Group 5, presented

higher scores compared to Group 1 in the frequency of consumption of tobacco and 5 or more glasses of alcohol on the same occasion in the last 30 days, as well as, in the attachment style of childhood trauma.

On the other hand, on emotional dependence, Group 3 participants had higher scores compared to Group 1, and Group 5 participants had higher scores than Group 1.

Table 4. Age-related differences in substance use, emotional dependence, difficulties in emotional regulation and attachment styles.

	Group 1: 13-14 years (<i>n</i> = 305)		Group 2: 15 years (<i>n</i> = 347)		Group 3: 16 years (<i>n</i> = 401)		Group 4: 17 years (<i>n</i> = 365)		Group 5: 18-22 years (<i>n</i> = 115)		Total (<i>n</i> = 1533)		<i>F</i>	<i>p</i>	Post hoc HSD of Tukey
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
	Substance use last 30 days: frequency														
Tobacco	.15	.57	.27	.76	.26	.75	.23	.71	.43	.96	.25	.73	3.36	.01*	1-5**
Substance use last 30 days: amount															
5 or more glasses of alcohol on the same occasion	.58	1.15	.86	1.66	.86	1.48	.89	1.55	1.21	1.75	.84	1.51	4.10	.00**	1-5**
Emotional dependence															
Emotional dependence	12.41	10.85	13.86	11.74	15.46	11.65	13.74	11.91	11.96	11.76	14.19	11.64	4.85	.00**	1-3**; 1-5**
Attachment styles															
Childhood trauma	12.18	5.22	12.70	5.31	13.22	5.26	12.44	5.55	13.94	5.13	12.76	5.34	3.42	.01*	1-5*

Note: **p* < .05; ***p* < .001.

Fifth, the mediating role of emotional regulation in the relationship between emotional dependence and substance use in the last month was analysed (Table 5).

The results reflected how 1% of the variances in the relationships between emotional dependence and frequency of tobacco, tranquilizer/sedative or sleeping pill and GHB or liquid ecstasy consumption were explained by difficulties in

emotional regulation. Similarly, 5% of the variance in the relationship between emotional dependence and the amount of consumption of 5 or more glasses of alcohol on the same occasion was explained by difficulties in emotional regulation. Finally, 7.5% of the variance in the relationship between emotional dependence and the amount of drinking was explained by difficulties in emotional regulation.

Table 5. Regression analysis assessing the partial mediation of emotional regulation in the relationship between emotional dependence and substance use.

Predictor variable	B	β	<i>t</i>	Variable criterion
Step 1				
Emotional dependence				Substance use last 30 days: frequency
Emotional dependence	.01	.09	3.47**	Tobacco
Emotional dependence	.01	.07	2.67*	Tranquilizers/sedatives or sleeping pills
Emotional dependence	.01	.08	3.03**	GHB or liquid ecstasy
Emotional dependence				Substance use last 30 days: amount
Emotional dependence	.07	.09	2.03*	Wine/champagne or cava (weekends)
Emotional dependence	.08	.09	2.09*	Hard liquor (weekends)
Emotional dependence	.02	.12	4.72**	5 or more glasses of alcohol on the same occasion
Emotional dependence	.04	.20	7.82**	Get drunk
Step 2				
Emotional dependence	.28	.18	7.18**	Difficulties in emotional regulation
Step 3				
Emotional dependence and emotional regulation				Substance use last 30 days: frequency
Emotional dependence and emotional regulation	.00	.08	3.13**	Tobacco
Emotional dependence and emotional regulation	.00	.05	2.04*	Tranquilizers/sedatives or sleeping pills
Emotional dependence and emotional regulation	.00	.07	2.67*	GHB or liquid ecstasy
Emotional dependence and emotional regulation				Substance use last 30 days: amount
Emotional dependence and emotional regulation	.06	.08	1.91	Wine/champagne or cava (weekends)
Emotional dependence and emotional regulation	.07	.09	1.95	Hard liquor (weekends)
Emotional dependence and emotional regulation	.01	.11	4.11**	5 or more glasses of alcohol on the same occasion
Emotional dependence and emotional regulation	.01	.07	2.84**	Get drunk

Note: * $p < .05$; ** $p < .001$.

Finally, the mediating role of attachment styles in the relationship between emotional dependence and substance use in the last month was tested (Table 6).

The results reflected how 1% of the variance of the relationships between emotional dependence and frequency of tobacco, tranquilizer/sedative or sleeping pill and GHB or liquid ecstasy use were mediated by attachment styles. Likewise, the results obtained show how 5% of the variances in

the relationships between emotional dependence and frequency of hashish or marijuana consumption and 5 or more glasses of alcohol on the same occasion were mediated by the attachment styles. Finally, 6.67% of the variance in the relationship between emotional dependence and beer/cider consumption on weekends was mediated by attachment styles.

Table 6. Regression analysis evaluating the partial mediation of attachment styles in the relationship between emotional dependence and substance use.

Predictor variable	B	β	<i>t</i>	Variable criterion
Step 1				
Emotional dependence				Substance use last 30 days: frequency
Emotional dependence	.01	.09	3.47**	Tobacco
Emotional dependence	.01	.07	2.67*	Tranquilizers/sedatives or sleeping pills
Emotional dependence	.02	.12	4.79**	Hashish or marijuana
Emotional dependence	.01	.08	3.03**	GHB or liquid ecstasy
Emotional dependence				Substance use last 30 days: amount
Emotional dependence	.07	.09	2.03*	Wine/champagne or cava (weekends)
Emotional dependence	.15	.17	4.93**	Beer/cider (weekends)
Emotional dependence	.09	.09	2.10*	Fruit liqueurs (weekends)
Emotional dependence	.08	.09	2.09*	Hard liquor (weekends)
Emotional dependence	.02	.12	4.72**	5 or more glasses at the same time
Step 2				
Emotional dependence				Attachment styles
Emotional dependence	-.03	-.06	-2.31*	Security
Emotional dependence	.02	.06	2.19*	Parental interference
Emotional dependence	.03	.10	4.01**	Parental permissiveness
Emotional dependence	.06	.12	4.92**	Childhood trauma
Step 3				
Emotional dependence and attachment				Substance use last 30 days: frequency
Emotional dependence and attachment	.00	.07	2.95**	Tobacco
Emotional dependence and attachment	.00	.05	2.11*	Tranquilizers/sedatives or sleeping pills
Emotional dependence and attachment	.01	.10	3.98**	Hashish or marijuana

Predictor variable	B	β	<i>t</i>	Variable criterion
Emotional dependence and attachment	.00	.06	2.40*	GHB or liquid ecstasy
				Substance use last 30 days: amount
Emotional dependence and attachment	.06	.08	1.75	Wine/champagne or cava (weekends)
Emotional dependence and attachment	.14	.15	4.44**	Beer/cider (weekends)
Emotional dependence and attachment	.07	.07	1.67	Fruit liqueurs (weekends)
Emotional dependence and attachment	.06	.08	1.74	Hard liquor (weekends)
Emotional dependence and attachment	.01	.09	3.65**	5 or more glasses at the same time

Note: * $p < .05$; ** $p < .001$.

Discussion

The first objective of the study was to analyse the relationship between substance use and emotional dependence, difficulties in emotional regulation and attachment styles. The results reflected that the greater the substance consumption the greater the emotional dependence. Specifically, the frequency of consumption of tobacco, alcohol, tranquilizers/sedatives or sleeping pills without prescription, hashish or marijuana, cocaine base and powder, GHB or ecstasy liquid, ecstasy, amphetamines or speed, hallucinogens, heroin, volatile inhalants, as well as the amount of beer/cider consumption on workdays and weekends, the consumption of 5 or more glasses of alcohol on the same occasion and getting drunk, increased as emotional dependence increased. These results are in line with previous studies that indicate that people with substance addiction present emotional dependence (Gómez & López-Rodríguez, 2017). It has also been found that dependent personality traits increase the risk of engaging in harmful health behaviours (Benetsch et al., 2017).

Regarding attachment styles, the data obtained reflected how the higher the substance use, the lower the attachment styles of safety, family concern, parental interference and parental authority value, while the higher the parental permissiveness, self-sufficiency and resentment against parents and child trauma. These results are in line with previous studies that show that substance users have deficient and unsafe attachment styles acquired in childhood (Meredith et al., 2020; Serra et al., 2019).

As for difficulties in emotional regulation, the data obtained indicated that as substance use increased, so did difficulties in emotional regulation. In addition, the use of tranquilizers/sedatives or sleeping pills with and without a prescription, hashish or marijuana, cocaine base, heroin, volatile inhalants and having been drunk require special mention, since all of them were related to difficulties in impulse control, lack of clarity and emotional acceptance and limited access to emotional regulation strategies. These data obtained may favour intervention towards these substances. In this line, previous studies indicate that the way in which emotions are regulated could be related to the occurrence of risk behaviour in young people and adolescents (Estévez et al., 2004). In addition, the need to address emotional deregulation in the prevention of substance abuse has been highlighted (Wang et al., 2018).

The second objective of the study was to test the predic-

tive role of emotional dependence, difficulties of emotional regulation and attachment styles on substance use in the past 30 days. The data obtained indicated that attachment styles were associated with substance consumption in adolescents, especially the value of parental authority and parental permissiveness. These results obtained could be in line with studies that point out the importance of parental rearing styles on substance consumption. Therefore, the development of insecure relationships at early ages with attachment figures or primary caregivers could generate an insecure mental scheme that would favour the consumption of toxic substances (Fernandez, 2015). Similarly, emotional dependence was associated with substance use. These results are in line with previous literature, pointing to substance consumption as one of the most frequent comorbidities in people with emotional dependence (Castelló, 2012). In addition, emotional regulation difficulties were also associated with substance use, predominantly impulse control difficulties and goal-directed behavioural interferences. These results are consistent with those found in previous studies (Díaz-Negrete et al., 2018).

Regarding the third objective, to analyse gender differences in substance use during the last month, emotional dependence, difficulties in emotional regulation and attachment styles. The results showed that men consumed greater amounts of substances and more frequently than women. Thus, men were observed to have higher scores than women in the use of tobacco, alcohol, wine/champagne or cava and fruit drinks on weekdays, tranquilizers/sedatives or sleeping pills with and without a doctor's prescription, hashish or marijuana, cocaine base and powder, GBH or liquid ecstasy, ecstasy, amphetamines or speed, hallucinogens, heroin and volatile inhalants, as well as, in the amount of consumption of wine/champagne or cava and appetizers or vermouth on weekends, 5 or more glasses or cups of alcohol on the same occasion and getting drunk. The greater consumption of psychoactive substances by men has been corroborated in previous studies (Teixidó-Compañó et al., 2018). These results could be explained by referring to the strong social pressure that women receive regarding the consumption of substances in comparison to men, which would cause them greater psychological harm and lead them to hide their consumption for fear of society's reaction (Sánchez, 2013). Likewise, following the results obtained in the present study, men showed to be more emotionally dependent than women. These results are consistent with previous studies that point to a greater presence of emotional dependence in ado-

lescent boys (Estévez et al., 2017; Urbiola & Estévez, 2015). On the other hand, women reported higher scores on both emotional regulation difficulties and attachment styles, more specifically on the subscales of safety, family concern and value to parental authority. These results are consistent and are reflected in previous studies (Loubat et al., 2007).

Next, the fourth objective was to assess age-related differences in substance use, emotional dependence, difficulties of emotional regulation, and attachment styles. Results showed that as age, frequency and amount of substance use increased, emotional dependence and attachment styles also increased in parallel. These results are in line with previous studies that indicate that emotional dependence increases significantly as age increases (Moreno et al., 2014). The same happens with drug consumption (Díaz et al., 2018). This could indicate the importance of prevention in order to avoid its establishment, or early intervention with the aim of avoiding its increase.

The fifth objective of the study was to analyse the mediating role of emotional regulation in the relationship between emotional dependence and substance use in the last month. The results obtained suggest that the relationships between emotional dependence and the frequency of consumption of tobacco, tranquilizers/sedatives or sleeping pills, GHB or liquid ecstasy, consumption of 5 or more glasses of alcohol in the same occasion and the amount of drunkenness, were explained by the difficulties in emotional regulation. These results are in line with previous studies, which place the origin of substance consumption in feelings of loneliness and abandonment (Valderrama et al., 2016). Furthermore, these results could indicate the importance of establishing asymmetric relationships in the problem of substance consumption. Similarly, studies carried out previously corroborate the relevance of emotional regulation in substance use and emotional dependence (Manero & Ibañez 2019).

Finally, the sixth objective of the study was to test the mediating role of attachment styles in the relationship between emotional dependence and substance use in the last

month. The results obtained confirmed that attachment styles mediated the relationship between emotional dependence and substance use (tobacco, tranquilizers/sedatives or sleeping pills and GHB or liquid ecstasy, hashish or marijuana, 5 or more glasses of alcohol on the same occasion, beer/cider on weekends). These results could be explained by following the psychodynamic theory, which states that a person fixed in the oral stage, can present emotional dependence towards others and seek stimulation through smoking and drinking behaviours (Freud, 1905).

This study is not without its limitations. The first of these refers to the transversal nature of the study which makes it impossible to obtain causal relationships. A second limitation would consist of the sample used, since most of them were between 13 and 22 years old, and it would be interesting to carry out other studies extending the age range. Likewise, the phenomenon of social desirability should be pointed out, since the participants were able to answer the questionnaires in such a way that they reflected a positive image of themselves, not answering sincerely.

Finally, and to conclude, it should be noted that the data obtained indicate a positive relationship between substance use and emotional dependence, as this relationship may have been forged at a very early age. This has been reflected in the study, since as age increases, the problem gets worse and, therefore, the solution is increasingly complex. Furthermore, substance use has also been related to difficulties in emotional regulation and to attachment styles established during childhood. Similarly, the need to develop specific treatment programs for women should be emphasized since they currently have much more difficulty in recognizing their addiction due to social pressure and most of them are focused on male addiction. In short, and as a final conclusion, substance use and emotional dependence are related, and prevention and early intervention are necessary to eradicate both problems. In addition, since difficulties in emotional regulation and attachment styles play an important role in their relationship, their inclusion and management in interventions aimed at these problems is required.

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