



ROLE OF ATTACHMENT IN THE DEVELOPMENT OF SUBSTANCE USE DISORDERS AMONG ADOPTED YOUTH

END OF TERM PROJECT

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Aquest treball ha pogut arribar a bon port gràcies a l'ajuda de molta gent:

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1. ABSTRACT

Background: adolescence is a period in life characterized by the seeking of new experiences, and it tends to be the initiation point of substance use among youth. Many factors intervene in the development of substance use disorders among adolescent population, and studies have demonstrated the importance of secure attachment patterns as a protective factor against substance use. On another note, adopted children have different proportions of attachment patterns compared to non-adopted youth. The percentage of insecure attachment (especially avoidant) among adoptees is relatively higher than the one in non-adoptees, which is important in terms of substance use because insecure youth (particularly avoidant youth) has higher rates of alcohol, cannabis and tobacco use among teenagers.

Objective: the main objective of this study is to analyse the importance of attachment in adopted children, and whether the pattern of attachment can predict or affect the development of substance use disorders. If a correlation between these elements were to be found, it would enhance the importance of taking attachment into consideration when working with adopted youth and their mental health.

Study design: this work will perform an observational, prospective, longitudinal cohort study performed between the pediatricians from the Centres d'Atenció Primària (CAPs) and the mental health professionals from the Xarxa de Salut Mental i Addiccions (XSMA) of the region of Girona.

Participants: the participants will be adopted children between 4 and 8 years old who have already lived at least a year with their adoptive family and that are assisted by their pediatrician in the region of Girona. The participants will be followed-up until they turn 16 years old.

Keywords: attachment, adoption, substance use disorder (SUD), secure attachment pattern, insecure attachment pattern, avoidant attachment pattern, anxious attachment pattern, disorganized attachment pattern, alcohol, cannabis, nicotine.

2. ABBREVIATIONS

- **ASCT:** Attachment Story Completion Task
- **AUDIT:** Alcohol Use Disorders Identification Test
- **CAPs:** Centres d'Atenció Primària
- **CAST:** Cannabis Abuse Screening Test
- **CCH:** Cartas para Completar Historias
- **CEIC:** Comitè d'Ètica d'Investigació Clínica
- **CSMIJ:** Centre de Salut Mental Infantil i Juvenil
- **CTS:** Child Trauma Screen
- **EAP:** Equip d'Atenció Primària
- **FAS:** Family Affluence Scale
- **FASD:** Fetal Alcohol Spectrum Disorder
- **HPA:** Hypothalamic-Pituitary-Adrenal
- **IAS:** Institut d'Assistència Sanitària
- **ICS:** Institut Català de la Salut
- **IGA-A:** Índice de Gravedad de la Adicción para Adolescentes
- **IQ:** Intelligence quotient
- **IWMs:** Inner Working Models
- **PFC:** Prefrontal Cortex
- **PTE:** Potentially Traumatic Events
- **PTSD:** Posttraumatic Stress Disorder
- **SUD:** Substance Use Disorders
- **THC:** tetrahidrocannabinol
- **URPIJ:** Unitat de Referència de Psiquiatria Infantil i Juvenil
- **WASI-II:** Wechsler Abbreviated Scale of Intelligence
- **WHO:** World Health Organization
- **XSMA:** Xarxa de Salut Mental i Addiccions

3. PREFACE

This project started this summer, when I was working as a leisure time monitor to 13-year-old teenagers. Working with them and getting to know them is truly one of the most fulfilling and rewarding experiences I have ever lived. One day during this July, a girl that I have known for many years opened up to me about her adoption process. It was a long and emotional conversation, which made me realise how deep and life-changing the process of adoption can be. Weeks after talking about this topic with her, I started to get more curious about which clinical implications could be related in some way to the adoption process. Following these questions around my mind and discussing it with Dr. Serrano, I decided that I wanted to focus my end of term project around this topic.

I took his advice into consideration and started getting more information about the impact of adoption on children and adolescents. There is no doubt that adoption has many positive aspects: most of the adopted children are well adjusted(1), and placing them in an adoptive family “most likely results in better childhood experiences, health care, family stability and family relationships”(2). However, adoptees still have higher rates of psychiatric disorders compared to their nonadopted peers(3). Studies also found out that adoptees have higher rates of externalizing problems(4) and are from 1.5 to 4 times more likely to be diagnosed with mental health conditions(5). Research also state that “the adoptees are 2.05 (95% CI=1.32–3.17) times as likely to meet the criteria for substance abuse or dependence as the nonadopted young adults”(3).

With that in mind, I started to wonder which variables could be related with this higher risk for substance abuse among adopted teenagers. As I will explain later in this introduction, many factors interfere in the development of substance use disorder (SUD), but one that really struck me was attachment.

Attachment is “a deep and enduring emotional bond that connects one person to another across time and space”(6). Attachment theory states that children tend to search for closeness and proximity with their caregivers when they feel threatened. Based on the response that these infants receive from their guardians, they will develop one of four different attachment patterns. These main types of attachment patterns are secure, avoidant, ambivalent/anxious or disorganized. Results are not completely conclusive about statistics, but most of them agree that adopted children have a higher risk of developing insecure attachment patterns compared to non-adopted children(7–9).

Taking all this information into consideration, I wanted to connect these three main topics of interest and ended up with a main objective: which role play attachment patterns in the development of substance use disorder among adopted youth?

4. PATIENT AND PUBLIC IMPLICATION

During the creation of this study and researching about this topic, I joined the professionals working in the *Unitat de Referència en Psiquiatria Infantil i Juvenil (URPIJ)* in the *Parc Hospitalari Martí i Julià de Salt*, where I gained a deeper insight on substance use disorders and its treatment. The team of professionals (psychiatrists, psychologists, occupational therapists, nurses, and nursing assistants) working there, especially Dra. Mayoral, also instructed me on measuring the extent of substance use and the many needs of adolescent patients suffering from SUDs.

After that, I also visited the *Centre de Salut Mental Infantil i Juvenil (CSMIJ) of Girona*, where I could see the importance of attachment in all the developmental processes that take place during childhood and adolescence. Among with other professionals, Dra. Andreu helped me a lot with the instruments needed to properly determine attachment patterns in children and teenagers.

Lastly, to better understand the realities of adopted children and their adoptive families, I contacted with the professionals working at NiudA, a centre in Girona specialized in adoption and attachment. They helped me add a new perspective and dimension to this study.

5. INTRODUCTION

5.1. ATTACHMENT

The theory of attachment was developed by British psychoanalyst John Bowlby in the 1950s, it was later expanded by Mary Ainsworth and Mary Main, and it is considered one of the most influential and important contemporary psychology theories. Attachment was defined as a neurobiological, motivational, behavioral, and interactional system designed to provide security for infants(10,11). The theory developed by Bowlby also postulates that all children are born with innating attachment behavioral systems, which represent “a biologically evolved neural program that organizes behavior in ways to increase the chances of an individual’s survival and reproduction, despite inevitable environmental dangers and demands”(12). To sum up, this theory defends that from infancy both emotional and physical proximity to a loved one is a biological necessity(13).

The attachment system regulates closeness and the lack of it between caregivers and children. In a situation of danger or threat, the child is supposed to seek closeness and physical proximity to parental figures, and as a result, caregivers should provide their infants with a feeling of security. This search of physical proximity should last until the feeling of threat has passed, and it becomes a primary attachment strategy(14). As I will explain later, if caregivers can guarantee closeness to their offspring, then a secure attachment pattern will be developed between the infant and their parental figure.

Progressively, the lived experiences of the infant regarding attachment figures are internalized. This allows them to develop cognitive representations, known as inner working models (IWMs) (15). Therefore, these IWMs or attachment representations are the result of the pattern of parent-child relationship and interactions, and they also describe how children depict themselves and understand the world around them(16). IWMs are very important because they are present not only in childhood but also during adulthood, and they influence on how people attach to others interpersonally. If positive IWMs are developed, children will be able to establish secure bases with other persons than the original attachment figures. In addition, positive IWMs also allow the infant to regulate affective states independently(10).

Although positive attachment patterns are developed when caregivers are available, the lack of supportive caregiving will cause the development of secondary attachment strategies in children and teenagers. These secondary attachment strategies are related with insecure attachment orientations(14).

5.1.1. Individual patterns of attachment

Mary Ainsworth defined three patterns of attachment: secure attachment, anxious attachment, and avoidant attachment. The fourth pattern was defined by Mary Main, and it is the disorganized pattern. These patterns embrace coping strategies towards negative experiences, ways of expressing attachment needs and methods of regulating and expressing those necessities. Anxious, avoidant, and disorganized patterns were classified as insecure attachments. Secure attachment was defined as “the ability to carry a representational model of attachment figures as being available, responsive, and helpful”. Insecure attachment was defined as “not seeking out the attachment figure when distressed or having difficulty moving away from the attachment figure, likely due to having an unresponsive, rejecting, inconsistent, or insensitive caretaker”(17).

The **prototypical initial attachment pattern** is started with an event or threat that activates the attachment system. The threat is detected, and it triggers a fear response, which causes an activation of the primary attachment strategy of proximity seeking. If the threat is present, the goal of proximity seeking is survival, and the fear response will still be present even after the establishment of proximity. Given that proximity seeking is successful, and the threat is removed, a positive IWM will emerge when this pathway is repeated over time. On the other hand, when caregivers fail to downregulate the child’s fear response, this interaction will not be perceived as rewarding for the infant, therefore developing negative IWMs(14).

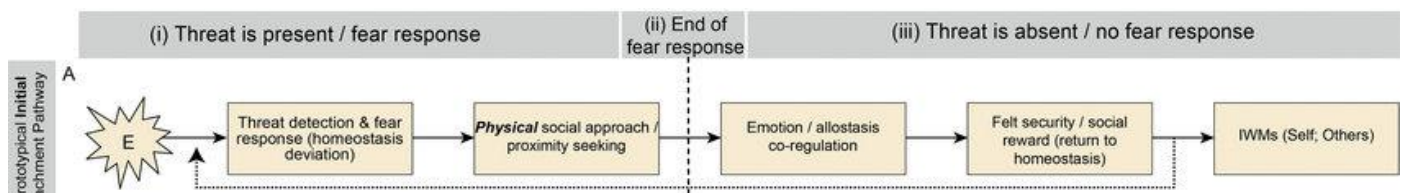


Figure 1: Prototypical initial attachment pathway(14)

Secure attachment pattern: this pathway appears when prototypical initial attachment pathways are based on solid and secure relationships between children and caregivers. It results in the development of positive IWMs of both the self and others. Therefore, children with secure relations with their parents continue to seek proximity when they feel threatened and integrate physical closeness as an attachment strategy. As a result, these children internalize the ability to self-regulate their emotions by developing the capacity to modulate emotional reactions through control mechanisms and fight-or-flight reactions. In conclusion, these children can use co-regulation and self-regulation flexibility, and they can also predict threatening situations by using their IWMs(18).

Avoidant attachment pattern: this pattern is developed as a result of caregiver's unavailability, and felt insecurity is installed in these young individuals. Dismissing and avoidant strategies appear on these children, and they tend to affectively deactivate as a coping mechanism. Children with this pathway usually turn the attention away from their own emotions and avoid situations in which they predict their attachment system will be activated. On the other hand, children with avoidant patterns will have a weaker fear response when situations that may trigger the prototypical initial attachment pathway occur.

In avoidant individuals, the coping mechanisms that we should expect are social distancing and a higher desire for independence than in non-avoidant individuals(19). Consequently, the felt security related with social reward is lower in avoidant children(20). IWMs in this pathway tend to be positive when it comes to the models related with the own self, and negative when the model is related with others. The lack of availability of others develops these negative models, and the positive self-models are a way of compensating the unstable relationships with their caregivers.

Anxious attachment pattern: this pattern is also known as ambivalent, and it appears because of an inconsistent relationship between the caregivers and the child. This situation leads to unpredictable social emotion coregulation, resulting in the develop of an anxious attachment

orientation. This pathway is related with IWMs based on anxiety, characterized by a negative model related to the self, and an ambivalent model related to others resulting of the constant need of social co-regulation and proximity seeking paired with repeated rejection by the caregivers.

Hypervigilance is expected when signs of unavailability of the caregivers is present(21), and we can also expect a tendency to induce a fear response caused by little threats (or even when there is no clear threat). Consequently, anxious attachment pathway is usually related with intensified distress and felt insecurity because of persistent homeostasis deviation.

Disorganized attachment pattern: this pattern contains elements of both attachment avoidance and anxiety. When there is a tendency to have unstructured shifts between security, avoidance and anxiety, this type of pattern is very likely to appear(22). People with this pattern are characterized by a lack of functioning coping strategies, and they tend to have a very high risk for developing severe psychopathology. Disorganized attachment patterns are also related with parental psychopathology, traumatic experiences such as sexual abuse and maltreatment, as well as loss and neglect(10).

5.1.2. Neurobiology of attachment

One of the main branches of attachment theory is neurobiology, and as we better understand the neurodevelopmental processes related to attachment, the window of opportunity for intervention and treatment will expand significantly. Different neurobiological systems intervene in the development of attachment patterns, which will be briefly described in this study.

One of the first elements to consider is the **hypothalamus**, which is fully developed at birth and is affected by the maternal HPA axis(22). The hypothalamus produces cortisol, and the correct modulation of cortisol plays a very important role in future function. It has been shown that oxytocin and social interaction decrease cortisol levels, which proves that even in early stages physical connection with the mother has an important effect on neuroplasticity and brain

development(23). Quirin et. al.(24) stated that adults with insecure attachment had a hyper-reactive HPA axis and cortisol response to acute stress, which proves that these effects are long lasting. When children are exposed to sensory experiences (even if these experiences are traumatic) during these early stages in which the neurobiology is primed for attachment, they will seek out these same sensory experiences, even if they are traumatic, as a way to have a rewarding feeling. Therefore, this theory states an interconnection between early attachment processes and reward system.

During the first three months of life, the **hippocampus** fully matures, and it plays an important role in the limbic system, related with spatial and emotional memory. The hippocampus has a high number of glucocorticoid receptors, which causes significant sensitivity to stress and cortisol production. If the child is stressed, then they will produce high doses of cortisol, which eventually causes neurotoxicity to the hippocampus, and this neurotoxicity enhances even more cortisol production(11). Therefore, abuse and neglect at these early stages of life can affect the correct development of the hippocampus.

In terms of **reward system**, which is very important in the attachment theory, two main systems have been described and studied: the ventral striatal pathway and the dorsal striatal pathway. The ventral striatal pathway is involved in novelty seeking as a reward, whereas the dorsal striatal pathway is involved in reward related to the familiarity system(25). The novelty seeking system is thought to be more active in early development, so if there is a poor attachment during this phase, the development of the novelty seeking system will be affected. “If the dorsal striatal reward network is not fully developed during the sensitive attachment period, one cannot develop a preference for familiarity, comfort and satiety over the rewarding sensation of novelty brought on by substances of abuse”(11). Indeed, some studies state that children with poor attachment are more likely to develop substance use problems, as their reward of familiarity in relationships may not protect them against the reward of substance and novelty/impulsivity(26). Furthermore, the type of attachment pattern has been found to impact the recovery of patients treated for addictions: insecure avoidant attachment leads to poor treatment outcomes(27).

The **amygdala** matures at six to seven months of age, and two of its main functions are the regulation of fear and salience. Proper secure attachment is necessary to have a correct development of the amygdala. In 2013, Olavsky et. al. studied the differences in the amygdala of adopted and non-adopted youth(28). It showed that youths raised by their biological families showed significant responses to their mother but not to strangers, whereas adoptees demonstrated a significant amygdala response to both mothers and strangers. The study also showed that the ability of discriminating the mother and the stranger decreased as the age of the youth at the time of adoption increased. It also stated that there is a sensitive period of attachment development that has life-long consequences.

The **prefrontal cortex** (PFC) is also a fundamental part of the neurobiology of attachment. In terms of attachment, the mature PFC has been shown to be very important in the process of attachment in adults. Information surrounding the relationship of the PFC in the attachment process in early stages of development remains unclear, but it has been theorized that it is likely that the correct development of the PFC depends on the functionality of earlier neurobiological developments of the elements previously commented(11).

Regarding **oxytocin**, the levels of this hormone in securely attached individuals tend to be higher during periods of stress, and oxytocin and reward activation synchronize during interaction with one's infant. This is important for the child because when parent and infant interact with each other, the oxytocin levels rise in both(29). Therefore, it appears that oxytocin and secure attachment may be important in the regulation of the stress system.

Lastly, **epigenetics** should also be considered when studying the neurobiology of attachment. Although gene expression is the underlying mechanism for behavior and neuroscience, it has been demonstrated that environment affects gene expression, and it can produce alterations, either reversible or permanent, that can be heritable by offspring(30). These changes in genetic expression are affected by the mother's affective state in pregnancy and her behavior toward her child after giving birth. This statement has an even deeper meaning in adoptees, due to their

separation from the biological mother. While these epigenetics changes might be relatively stable throughout life, evidence also states that they are potentially reversible in adulthood(31).

5.1.3. Attachment and adolescence

Adolescence is a transitional space of time, characterized by the need and seek of independence from caregivers and for greater autonomy, as well as a search for significant relationships in peers. During adolescence, many changes occur at emotional, cognitive, and behavioral levels, which are related to attachment relationships, and that allow youth to become self-sufficient and to take care of others. In addition, risk taking behaviors increase during this developmental period, and for many youths this includes experimenting with substances. Important transformations will take place during adolescence, and attachment patterns are strongly related with these changes. During this stage, the adolescent individual can check their own mental state and recognize positive and negative aspects in their relationship with others, so this will allow the study to evaluate their patterns using instruments focused on the adolescent's narrative(32).

5.1.4. Attachment and adoption

As suspected, studies have shown the existence of a close relation between adoption and insecure attachment(32). Barcons et al.(33) studied the percentage of attachment patterns in adopted children and compared it to the non-adopted sample calculated previously by Van Ijzendoorn et al.(34). In non-adopted samples, attachment patterns were: 62% secure attachment pattern, 15% insecure-avoidant, 9% insecure-ambivalent or anxious, 15% disorganized attachment pattern. The results of the adopted group studied by Barcons et al. were the following: 60.3% secure attachment pattern, 25% insecure-avoidant pattern, 12.9% insecure-ambivalent pattern and 1.7% disorganized attachment pattern. Although in these studies there is not a very high difference between the percentage of secure attachment, the difference of avoidant patterns is clearly prominent. The results of another study(7) showed 55% secure pattern, 20% avoidant pattern, 15% ambivalent pattern and 10% disorganized pattern with the adoptive mother; and 31.6% secure pattern, 26.3% avoidant pattern, 15.8% ambivalent pattern

and 26.3% disorganized pattern when related to the adoptive father. Finally, Escobar et al.(32) found a percentage of up to 52% of adopted adolescents with insecure-avoidant attachment.

Clearly, there is a broad variety in the proportions of different patterns, but all of them tend to agree in the high ratio of the insecure avoidant pattern. This could be explained by the fact that it is common among adoptees to have learned to appear less vulnerable and more autonomous in the absence of caregivers, which is a situation that many of adopted children face during their life. Therefore, they would develop an avoidant pattern, caused by the absence of caregivers in situations of danger and need. As a result, they might go to substance use as a coping mechanism. In fact, studies show that “attachment avoidance is significantly related to the use of cigarettes, alcohol, marijuana, and other drugs”(38). Moreover, Pierrehumbert et al. found a link between insecure-avoidant attachment and externalizing behavioral problems, which are also related to all types of cigarettes, cannabis, and alcohol use(36).

5.2. SUBSTANCE USE DISORDER

According to the DSM-5(29), substance use disorder (SUD) is defined by a problematic pattern of use of an intoxicating substance in which patients use the substance repeatedly despite experiencing adverse consequences derived from this use. DSM-5 recognizes eleven drugs with the potential to induce a SUD, but in this study we will focus on alcohol, cannabis and nicotine because these are the three main substances consumed by adolescents(38). The term substance use disorder also includes both substance abuse and substance dependence.

The diagnostic criteria for substance use disorder according to the DSM-5 (ANNEX 1) must include a problematic pattern of use of an intoxicating substance leading to clinically significant impairment or distress, as manifested by at least two of the possible symptoms related to substance use. These symptoms must occur within a 12-month period, and they can affect different spheres of the patient’s personal life such as family, work/school, or leisure.

The symptoms considered in the diagnostic criteria are the following:

- The substance is often taken in larger amounts or over a longer period than was intended.
- There is a persistent desire or unsuccessful effort to cut down or control use of the substance.
- A great deal of time is spent in activities necessary to obtain the substance, use the substance or recover from its effects.
- Craving, or a strong desire to use the substance.
- Recurrent use of the substance resulting in a failure to fulfill major role obligations at work, school, or home.
- Continued use of the substance despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of its use.
- Important social, occupational, or recreational activities are given up or reduced because of the use of the substance.
- Recurrent use of the substance in situations in which it is physically hazardous.
- Use of the substance is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
- Tolerance, as defined by either of the following:
 - A need for markedly increased amounts of the substance to achieve intoxication or desired effect.
 - A markedly diminished effect with continued use of same amount of the substance.
- Withdrawal, as manifested by either of the following:
 - The characteristic withdrawal syndrome for other (or unknown) substance.
 - The substance is taken to relieve or avoid withdrawal symptoms.

An important thing to take into consideration when talking about SUD is that the neurobiology and etiology around it differs between adulthood and adolescence. According to the nature of this study, I will focus on adolescent substance use and the main factors surrounding it.

5.2.1. Etiology

According to Bronfenbrenner's Bioecological Model(30), all factors involved in the etiology of adolescent substance use can be classified in different "systems". The *microsystem* encompasses four main factors: siblings, school, peers, and parental figures. The *mesosystem* includes the connections and interactions between the individual's microsystem (for instance, the interaction between peers and family). The *exosystem* refers to larger social systems such as neighborhood or culture. Finally, the *macrosystem* encompasses broader concepts such as cultural values, politics, or religion(31).

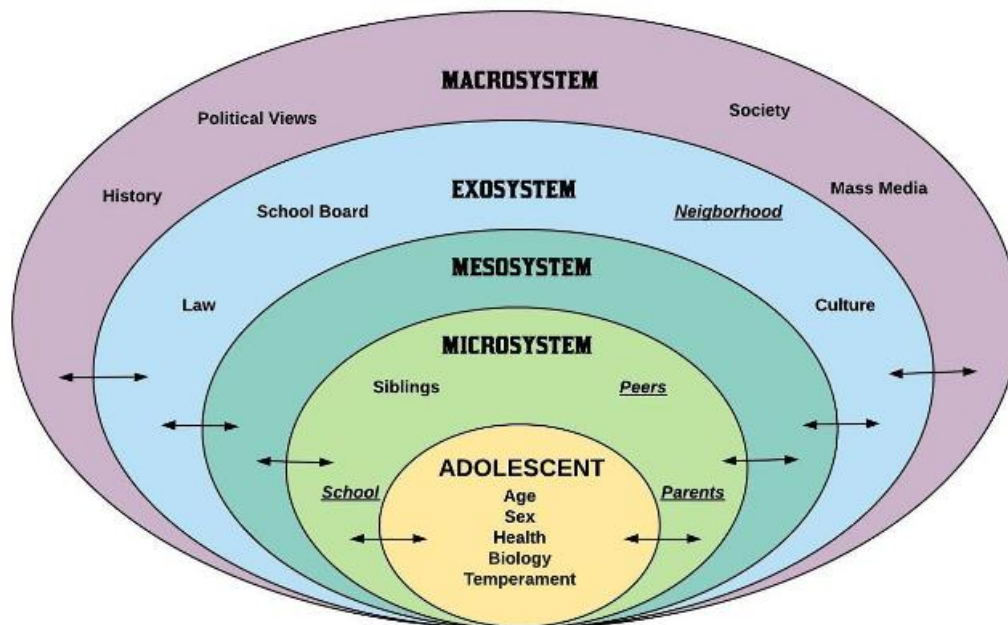


Fig. 1. Psychosocial factors relevant to adolescent substance use based on Bronfenbrenner's Bioecological Model. Italicized and underlined contexts represent those reflected in the current review.

Figure 2: Psychosocial factors relevant to adolescent substance use(40)

5.2.2. Genes and neurobiology

Prior studies show that individual's own genetic information plays an important role in their susceptibility to socialization contexts. Different models have been taken into consideration when studying neurobiological and genetic approach related to adolescence substance use. Diathesis-stress models(32) states that some people have a greater risk for developing psychopathology because they may be more vulnerable to maladaptive socialization contexts because of their genes. On the other hand, vantage sensitivity models postulate that, while young

people with certain genetic factors might be more sensitive to adaptative socialization contexts, youth without those genetic factors are unaffected(33). In addition, socialization effects are more highly associated with SUD during adolescence; in contrast, genes have a stronger association on stages of use more typical in adulthood. Therefore, this information implies that, even though the impact of genes in relation to SUD has been proved, according to the population of this study, socialization variables will be more associated with SUD in adolescents and should be studied deeper. In essence, “findings support the importance of synergistic effects of genes and socialization contexts on adolescent use”(34).

Neurobiology also plays an important role in the etiology of adolescent substance use. To have an accurate understanding of the neurobiology of adolescence, we must see this period as a transitional one rather than to approach it as single moments in time. Their neurological systems are more developed than childrens’, but they are still not as developed as the one of adults. Neurobiology of adolescent substance use focuses on a dual system, which states that the increasing of risk taking around adolescence is related with an imbalance in developmental courses of two brain systems(35). The first system is located primarily in the striatum, and it reflects a rapidly developing socioemotional system related with novel, rousing, and rewarding experiences. The second system reflects a developing cognitive control system, located in the prefrontal cortex. It participates in judicious decision making and top-down regulation of behavior, and it activates when adolescents must control potentially harmful impulses(36). With development and experience, “the functional connectivity between these regions is strengthened and provides a mechanism for top-down modulation of the subcortical systems”(46). The changes in the dopamine systems seem to be related to motivated behavior, as in early adolescence the density of dopamine receptors in the striatum tend to peak, whereas this peak appears in the prefrontal cortex in late adolescence. Although this relation between dopamine systems and motivated behavior remain unclear, it is likely to be related to changes in sensitivity to reward during adolescence(47).

5.2.3. Psychosocial factors

As stated before, many socialization factors intervene in adolescent substance use, but according to Trucco et al.(40) the main ones are parents and peers.

Parents: research shows that the two main components related to parents are parental control (demandingness) and parental warmth (responsiveness). Both factors play a protective role in relation to substance use(48). According to these components, four main parenting styles have been conceptualized: authoritative (high control, high warmth), authoritarian (high control, low warmth), permissive (low control, high warmth), and neglectful (low control, low warmth)(49). Family cohesion was shown to have a protective effect against alcohol-related problems in teenagers(50) and parental support is associated with lower levels of substance use in young adults(51). Moreover, the use of substance in the household increases the likelihood of teenagers to use those substances(52).

Peers: Trucco et al.(53) showed that peers are more influential relative to parents during early adolescence. Peer influences can modify an adolescent's decision to use substances, and peer selection becomes an important variable to consider. In fact, substance use behavior can be promoted just with the belief that a peer group will approve that type of behavior(53). Pearson and colleagues(54) showed that socialization with peers and selection of peers were related with alcohol use, socialization was a strong predictor of cannabis use and neither socialization nor selection processes contributed to tobacco use.

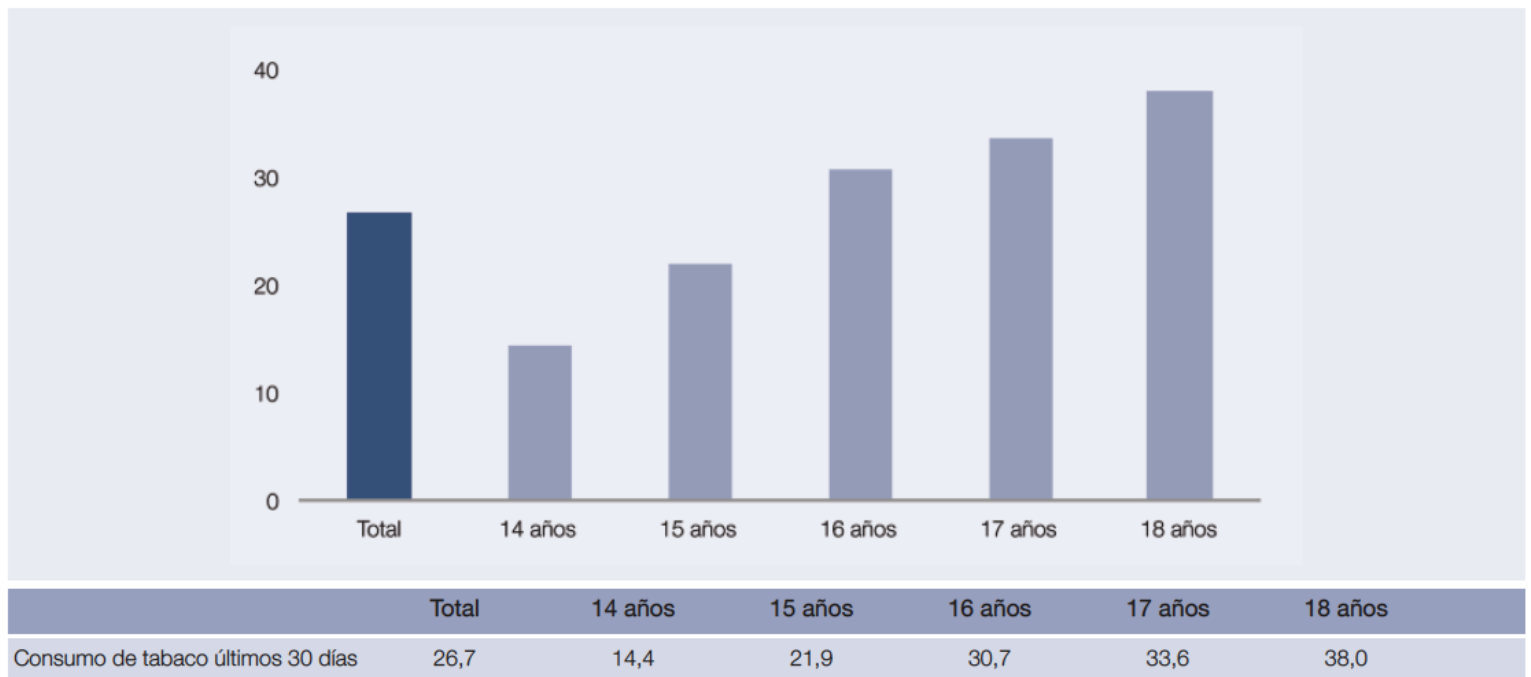
5.2.4. Substances of interest

Alcohol: this substance is the most extended psychoactive substance in adolescent population aged between 14 to 18 years old. According to the Observatorio Español de las Drogas y las Adicciones (37), 77,9% of this population admits having used an alcoholic beverage at least once in their lives. Moreover, 75,9% of adolescents aged 14 to 18 have consumed alcohol in the last 12 months. When it comes to the last month, 6 out of 10 students drunk alcohol and 32,3% of students did "binge drinking" (i.e. drinking 5 or more cups in less than 2 hours).

The age of initiation of alcohol use in Spain tends to be around 14 years old, and weekly consumption starts around 15 years of age. Alcohol drinking tends to start sooner on females, but the difference between genders is not very significant. Almost half the students (44,5%) between 14 and 18 years old acknowledge having had an acute alcohol intoxication in the last year, and 24,3% in the last month. The mean in which they locate their first intoxication is at 14,8 years old. Beers (24,2%) and cocktails (29%) are the two main types of alcohol drinks used by teenagers.

Nicotine: tobacco is the second most extended drug among teenagers, and 41,3% of this population has used it at least once in their life. The average age when this use is initiated is 14,1 years old. 35% of these students admit having smoked tobacco in the last 12 months, and 26,7% have done it in the previous 30 days. Another information worth sharing is that 40,6% of teenagers that smoked cigarettes in the last year have tried quitting smoking(37).

Prevalencia de consumo de tabaco en los últimos 30 días entre los estudiantes de Enseñanzas Secundarias de 14-18 años, por edad (%). España, 2018.

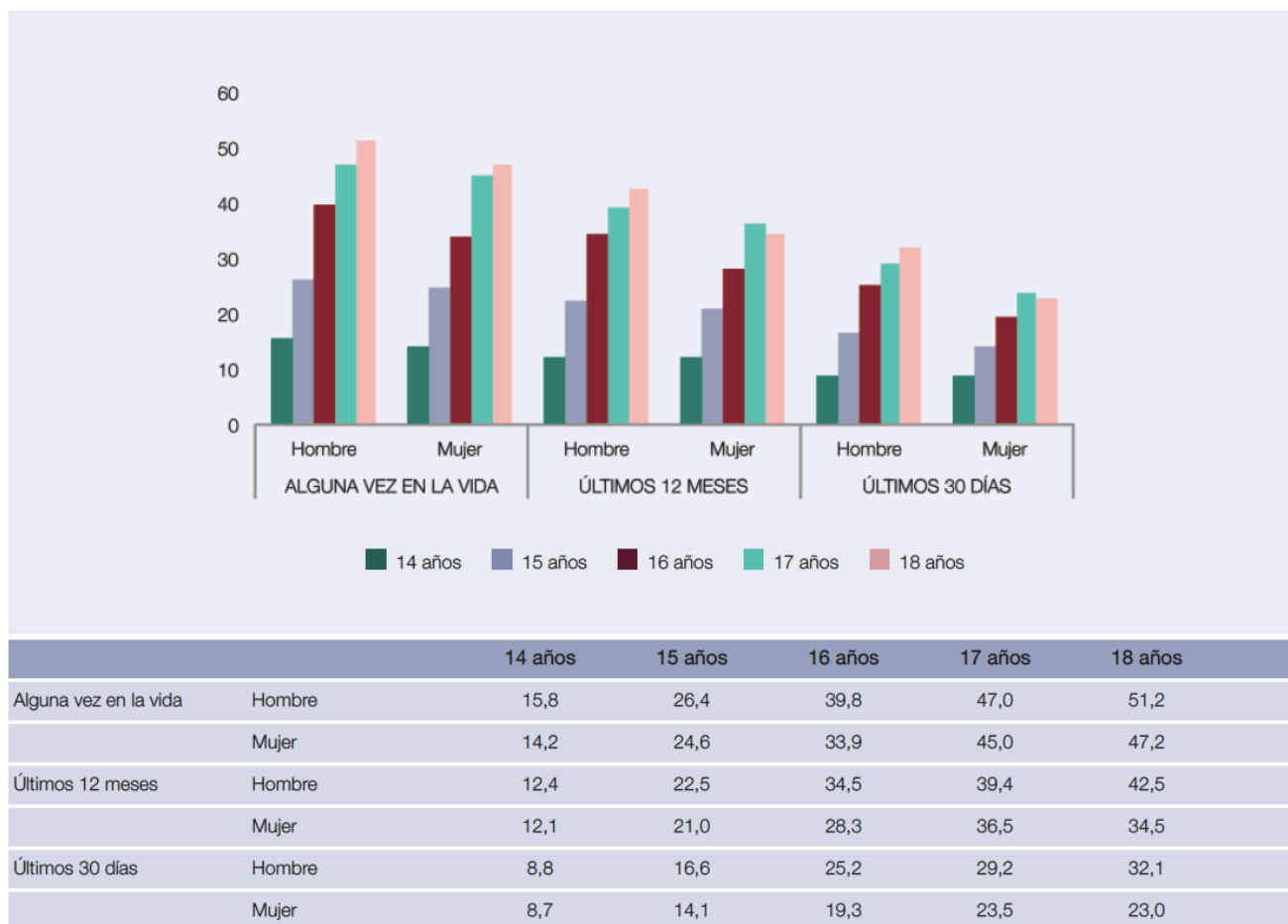


FUENTE: OEDA. Encuesta sobre Uso de Drogas en Enseñanzas Secundarias en España (ESTUDES).

Figure 3: tobacco prevalence in the previous 30 days among adolescents(38)

Cannabis: it is the illegal psychoactive substance with the highest prevalence among teenager students: 33% of students have tried it at least once in their lives. The cannabis consumption initiates around 14,9 years old and 27,5% admit having used it during the previous year. The percentage of adolescents using cannabis in the last 30 days is 19,3%. Most of the cannabis users among teenagers (87,1%) smoke it mixed with tobacco.

Prevalencia de consumo de cannabis entre los estudiantes de Enseñanzas Secundarias de 14-18 años, según edad y sexo (%). España, 2018.



FUENTE: OEDA. Encuesta sobre Uso de Drogas en Enseñanzas Secundarias en España (ESTUDES).

Figure 4: prevalence of cannabis use among adolescents(38)

When it comes to gender, male teenagers tend to consume more cannabis than females, as we can see in the following figure. Also, male adolescents consume cannabis in higher doses compared to females(37).

5.3. ADOPTION

Adoption is known as the process or act of establishing a legal relationship between a child and a caregiver other than the child's biological parent. Therefore, the adoptant becomes the designated adult with the responsibility for raising the child. Consequently, adoption has become a way of providing children born in conflictive households a new and healthier environment. The positive aspects of adoption are large and considerable: adoption usually translates in better childhood experiences, more family stability, stronger family relationships and more opportunities.

In Spain, one of the first steps when it comes to adopting a child, is getting the certificate of suitability (25). This certificate is a requirement requested by the spanish administration before allowing the process of adoption to go further. Some of the basic contents in regarding of the psychosocial are:

- Attitude and behavior during the interviews
- Individual profile
- Couple history and current relationship
- Educative capabilities
- Family lifestyle
- Attitude towards the past and the biological family of the child
- Physical health and healthcare availability
- Economic situation and jobs
- Housing and environment

There are two main types of adoption based on the country of origin of the child: national and international adoption.

5.3.1. National adoption

During 2019, 626 children were nationally adopted by Spanish families. In terms of sex, 293 of these children were assigned female at birth and 333 were assigned male. When it comes to age, adoptees were divided in five groups: 0-3, 4-6, 7-10, 11-14 and 15-17 years old.

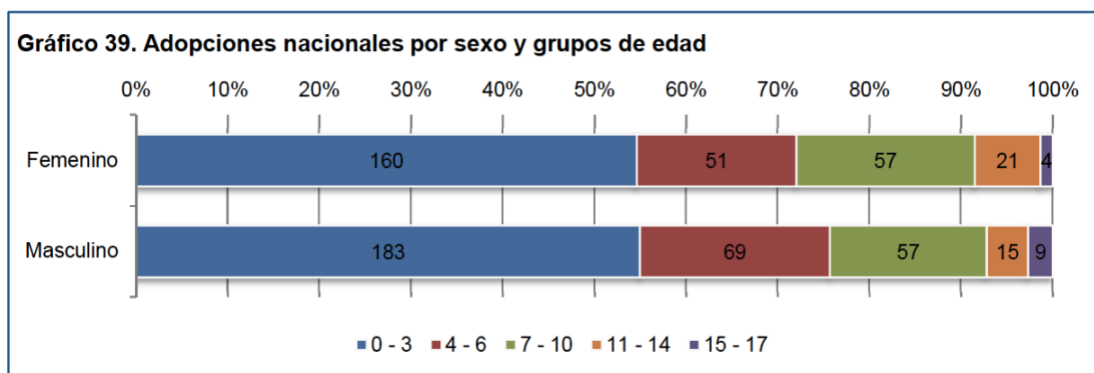


Figure 5: national adoptions classified by sex and age(56)

In Catalonia, 63 children were nationally adopted in 2019. This represents a 10,06% of all the national adoptions in Spain during that year. From all these adoptees, 60 of them were between 0 and 3 years old(26).

Tabla 48. Comparativa CCAA - Adopciones nacionales por grupos de edad

	TOTAL		0 - 3		4 - 6		7 - 10		11 - 14		15 - 17	
	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa
Andalucía	138	8,6	44	2,7	32	2,0	39	2,4	17	1,1	6	0,4
Aragón	42	18,7	23	10,3	7	3,1	7	3,1	4	1,8	1	0,4
Asturias	10	7,5	10	7,5	0	0,0	0	0,0	0	0,0	0	0,0
Baleares	18	8,5	6	2,8	5	2,3	6	2,8	1	0,5	0	0,0
Canarias	27	7,6	17	4,8	5	1,4	5	1,4	0	0,0	0	0,0
Cantabria	7	7,6	3	3,2	1	1,1	3	3,2	SD	—	SD	—
Castilla y León	59	17,1	36	10,4	16	4,6	7	2,0	SD	—	SD	—
Castilla-La Mancha	16	4,3	8	2,2	6	1,6	2	0,5	SD	—	SD	—
Cataluña	63	4,5	60	4,3	2	0,1	1	0,1	0	0,0	0	0,0
C. Valenciana	58	6,5	30	3,4	14	1,6	6	0,7	4	0,4	4	0,4
Extremadura	6	3,4	3	1,7	0	0,0	3	1,7	0	0,0	0	0,0
Galicia	55	14,3	31	8,1	12	3,1	10	2,6	2	0,5	0	0,0
Madrid	36	2,9	35	2,8	0	0,0	1	0,1	0	0,0	0	0,0
Murcia	39	12,7	10	3,3	10	3,3	15	4,9	4	1,3	0	0,0
Navarra	9	7,4	5	4,1	1	0,8	0	0,0	1	0,8	2	1,6
País Vasco	32	8,7	17	4,6	6	1,6	6	1,6	3	0,8	0	0,0
La Rioja	7	12,8	1	1,8	3	5,5	3	5,5	0	0,0	0	0,0
Ceuta	2	10,0	2	10,0	0	0,0	0	0,0	0	0,0	0	0,0
Melilla	2	8,6	2	8,6	0	0,0	0	0,0	0	0,0	0	0,0
Total	626	7,5	343	4,1	120	1,4	114	1,4	36	0,4	13	0,2

Tasa 1/100.000 personas menores de 18 años

Figure 6: national adoptions based on the age group(57)

Through the last years, the number of national adopted children has increased. In 2015, the number of national adoptees was 553, and in 2019 the number raised to 626.

Tabla 29. Evolución de los menores adoptados de adopción nacional

		2015	2016	2017	2018	2019
Menores adoptados ⁽¹⁾	Abs.	553	588	680	639	626
	Tasa	6,8	7,1	8,2	7,7	7,5
Tasa 1/100.000 personas menores de 18 años						

Figure 7: evolution of national adoptions(57)

5.3.2. International adoption

On the other hand, when speaking of international adoption, each year the number of families interested in international adoption increases while the number of adoptions decreases. In 2019, 370 international adoptions came to fruition in Spain. The higher number of adoptions came from Asia (especially from India, China, and Vietnam), followed by Europe, Africa, America, and Oceania. When talking about age groups, 57% of these adoptions were done with children with ages from 0-3 years. The group of 4-6 years old represented a 24% and the ones from 7-10 represented a 15%. Only 2% of the international adoptees were older than 10 years(26).

Tabla AI-5. Adopciones internacionales por continente y rango de edad

ADOPCIONES	TOTAL		0 - 3		4 - 6		7 - 10		Más de 10		No consta	
	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa
África	4	0,2	1	0,0	3	0,1	0	0,0	0	0,0	0	0,0
América	52	0,8	29	0,4	10	0,1	11	0,2	1	0,0	1	0,0
Asia	242	2,9	157	1,9	49	0,6	27	0,3	3	0,0	6	0,1
Europa	72	1,0	24	0,3	26	0,4	19	0,3	2	0,0	1	0,0
Oceania	SD	---	SD	---	SD	---	SD	---	SD	---	SD	---
TOTAL	370	4,5	211	2,5	88	1,1	57	0,7	6	0,1	8	0,1
Tasa 1/100.000 personas menores de 18 años												

Gráfico AI-4. Adopciones internacionales por continente

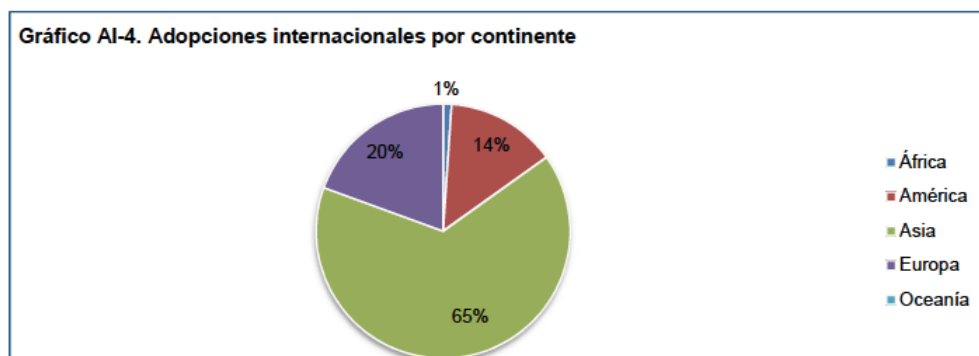


Figure 8: international adoptions based on the continent and age group

Tabla AI-11. Evolución de las adopciones por continente

		2015	2016	2017	2018	2019
África	Abs.	139,0	44,0	67,0	14,0	4,0
	Tasa	1,7	0,5	0,8	0,2	0,0
América	Abs.	66,0	23,0	42,0	57,0	52,0
	Tasa	0,8	0,3	0,5	0,7	0,6
Asia	Abs.	356	278	257	266	242
	Tasa	4,3	3,3	3,1	3,2	2,9
Europa	Abs.	198	152	134	107	72
	Tasa	2,4	1,8	1,6	1,3	0,9
Oceanía	Abs.	1	0	0	0	0
	Tasa	0,0	0,0	0,0	0,0	0,0
Total	Abs.	760	497	500	444	370
	Tasa	9,2	6,0	6,0	5,4	4,5

Tasa 1/100.000 personas menores de 18 años

Figure 10: evolution of adoptions based on continents (57)

An interesting thing to consider is that through these last years, and on the contrary to national adoption, the number of internationally adopted children has gotten significantly lower. In 2015, the number of adopted children was 760; and in 2019 the number decreased to 370 children.

Tabla AI-19. Comparativa CCAA - Adopciones internacionales por grupos de edad

	TOTAL		0 - 3		4 - 6		7 - 10		Más de 10		No consta	
	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa	Abs.	Tasa
Andalucía	36	2,2	24	1,5	7	0,4	3	0,2	1	0,1	1	0,1
Aragón	7	3,1	3	1,3	3	1,3	1	0,4	0	0,0	0	0,0
Asturias	2	1,5	2	1,5	0	0,0	0	0,0	0	0,0	0	0,0
Baleares	12	5,6	6	2,8	3	1,4	2	0,9	0	0,0	1	0,5
Canarias	13	3,7	8	2,2	1	0,3	2	0,6	0	0,0	2	0,6
Cantabria	3	3,2	1	1,1	2	2,2	0	0,0	0	0,0	0	0,0
Castilla y León	13	3,8	7	2,0	5	1,4	1	0,3	0	0,0	0	0,0
Castilla-La Mancha	20	5,4	13	3,5	2	0,5	4	1,1	0	0,0	1	0,3
Cataluña	59	4,2	37	2,6	17	1,2	4	0,3	1	0,1	0	0,0
C. Valenciana	28	3,1	14	1,6	6	0,7	8	0,9	0	0,0	0	0,0
Extremadura	7	4,0	7	4,0	0	0,0	0	0,0	0	0,0	0	0,0
Galicia	19	4,9	8	2,1	5	1,3	6	1,6	0	0,0	0	0,0
Madrid	102	8,3	53	4,3	23	1,9	23	1,9	1	0,1	2	0,2
Murcia	15	4,9	8	2,6	5	1,6	1	0,3	0	0,0	1	0,3
Navarra	22	18,1	15	12,3	4	3,3	0	0,0	3	2,5	0	0,0
País Vasco	8	2,2	4	1,1	3	0,8	1	0,3	0	0,0	0	0,0
La Rioja	3	5,5	0	0,0	2	3,6	1	1,8	0	0,0	0	0,0
Ceuta	SD	—	SD	—	SD	—	SD	—	SD	—	SD	—
Melilla	1	4,3	1	4,3	0	0,0	0	0,0	0	0,0	0	0,0
Total	370	4,5	211	2,5	88	1,1	57	0,7	6	0,1	8	0,1

Tasa 1/100.000 personas menores de 18 años

Figure 9: international adoptions classified by age group

In Catalonia during 2019, 59 children were internationally adopted, which represents 15,95% of all international adoptions in Spain during that year(57).

5.3.3. Adoption and psychopathology

Studies show that adopted children, both national and international ones, tend to have a higher risk to develop mental health problems. Among these problems, substance use disorder is quite prominent among these infants: internationally adopted teens have a 5 times greater chance of drug abuse compared to their nonadopted peers(8). Also, during adolescence, past negative experiences increase the likelihood of developing psychiatric problems and emotional difficulties(38). Moreover, the adoption status (adopted or nonadopted) was found to be a predictor factor of externalizing behaviour problems, such as drug abuse.

In conclusion, studies lead to the conclusion that the psychological adjustment in adopted youth tends to be less favourable than the one of non-adopted children and adolescents. More research on this topic is needed in order to solve many of the questions around it, but past studies confirm that this population should be taken into consideration due to its proved differences compared to non-adoptees.

6. JUSTIFICATION

As explained in the introduction of this work, there is a clear and studied relation between substance use and attachment. Having a secure attachment has been proved to be a protective factor for substance use, and therefore increasing our effort in providing better resources to patients in order to build more secure attachment patterns with their caregivers should be considered in the prevention of SUDs. Applying this to the adopted population, a deeper study in the association of attachment and adoption will help mental health professionals understand which role attachment plays in adoptees and appraise whether the service given to them should be different from the one given to non-adopted patients or not. Therefore, this also justifies the interest of this study to study the distribution of the different attachment patterns among adopted youth.

Although much of the past research states the existence of a relationship between attachment and substance use disorder, the relation between SUD and specific patterns of attachment is still a subject of study(10). In addition, another question yet to be resolved is whether the severity of substance use makes a difference regarding attachment security.

Fairbairn et al.(39) showed in a meta-analysis that the relationship between substance abuse and insecure attachment is closer and more prominent during adolescence rather than adulthood. This would explain why the focus of this study is based in children and adolescents rather than in adults. This can also be related with the fact that the initiation of drug use tends to start around 14 years old, and literature also states that lower age of initiation of drug use is negatively related with prevalence of SUD during adult life. In addition, this study wants to focus on attachment starting at early ages (between 4 and 8 years old). The reason of this objective is that there is a need of further research of the impact of attachment during childhood in drug use later in life.

Moreover, studies show that when adoption services invest more time and resources in effectively preparing adoptive parents for the challenges of the adoption process, positive findings in relation to drug use and emotion regulation increase(8).

Considering all this information, having a deeper understanding between the relationship of attachment and SUD in adoptees will translate in better ways of coping with these children's necessities and obstacles, and therefore providing them with better services to contribute to a proper and healthy development.

7. HYPOTHESIS

7.1. MAIN HYPOTHESIS

-Adopted children with insecure attachment patterns (avoidant, anxious or disorganized) will have increased risk for developing SUDs compared to adopted children with secure attachment patterns.

7.2. SECONDARY HYPOTHESIS

-The most insecure predominant pattern among the population will be avoidant attachment pattern.

-There will not be significant differences in attachment patterns between nationally and internationally adoptees.

-High socioeconomic status will be related with more secure attachment.

8. OBJECTIVES

8.1. MAIN OBJECTIVE

-The aim of this study is to assess the role of attachment in the development of substance use disorder among adopted youth.

8.2. SECONDARY OBJECTIVES

- To study the distribution of the different attachment patterns among adopted youth.
- To establish if insecure attachment is related with increased severity of SUDs.
- To observe if there are significant differences between national and international adoptions in terms of attachment patterns and substance use.
- To analyse whether quality of pre-adoption life and traumatic experiences before adoption can affect the attachment patterns of the adoptees.

9. METHODOLOGY

9.1. STUDY DESIGN

This study is designed as an observational prospective cohort study with a follow-up period of 8 to 12 years. It will be carried out by the *Xarxa de Salut Mental i Addiccions* (XSMA) and the pediatricians of the *Centres d'Atenció Primària* (CAPs) of the region of Girona.

9.2. STUDY POPULATION

The population of this study will be formed by adopted children (both internationally and nationally adopted) between the ages of 4 and 8 years old who have already been living with their adoptive family for at least 1 year, and they will leave the study at 16 years old during their last visit to their pediatrician.

9.3. INCLUSION AND EXCLUSION CRITERIA

9.3.1. Inclusion criteria

1. Nationally and internationally adopted children registered in Catalonia.
2. Children must have been adopted before the age of 6.
3. Children must be between 4 and 8 years old when they enter this study.
4. A minimum time span of 1 year living with the adoptive family.

9.3.2. Exclusion criteria

1. A diagnostic of fetal alcohol spectrum disorder (FASD).
2. A diagnostic of intellectual disability, which is defined as an intellectual quotient (IQ) lower than 70 points.
3. Children in whom there is evidence of use of intoxicating substances during their biological mother pregnancy.

9.4. SAMPLE SELECTION

The sampling method used in this study will be conveniently consecutive non-probabilistic. Participants will be selected by pediatricians working in CAPs of the region of Girona, once they confirm they meet the inclusion and exclusion criteria. After that, the candidate patients to enter this study will be informed by the pediatrician using the information sheet (ANNEX 2) and invited to voluntarily participate. All children entering the study should agree in their participation in this study and it is highly recommended that they are properly informed in accordance with their age(60). Considering that the population of study is under-age, the signature of the child's legal guardian of the informed consent document (ANNEX 3) is mandatory.

9.5. SAMPLE SIZE

In this study we used GRANMO application to calculate the sample size. Accepting an alpha risk of 0.05 and a beta risk of 0.2 in a two-sided test, **127** exposed subjects and **190** in the non-exposed are necessary to recognize as statistically significant a relative risk greater than or equal to 1.5. A proportion in the non-exposed group has been estimated to be 0.4. It has been anticipated a drop-out rate of 30%.

9.6. STUDY VARIABLES

9.6.1. Independent variable

The independent variable studied in this work will be **attachment patterns**. As explained before in this document, there are four main attachment patterns: secure, avoidant, anxious and disorganized. Two instruments will be used to determine the pattern of each participant: the Attachment Story Completion Task (ASCT) and the CaMir-R. These variables will be studied during two points of the study: at the beginning of the study when the participant is between the ages of 4 and 8 years old with the ASCT test, and at the end when the participant is 16 years old with the CaMir-R test. Therefore, attachment patterns will be considered a categorical variable, with four possible categories: secure, avoidant, anxious, or disorganized.

9.6.2. Dependent variable

The dependent variable in this study will be the presence of a **substance use disorder** (SUD). The substances considered in this study will be THC (cannabis), alcohol and tobacco. The diagnostic criteria for substance use disorder according to the DSM-5 must include:

- A problematic pattern of use of an intoxicating substance leading to clinically significant impairment of distress, as manifested by at least two of the following, occurring within a 12-month period:
 1. The substance is often taken in larger amounts or over a longer period than was intended.
 2. There is a persistent desire or unsuccessful effort to cut down or control use of the substance.
 3. A great deal of time is spent in activities necessary to obtain the substance, use the substance or recover from its effects.
 4. Craving, or a strong desire to use the substance.
 5. Recurrent use of the substance resulting in a failure to fulfill major role obligations at work, school, or home.
 6. Continued use of the substance despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of its use.
 7. Important social, occupational, or recreational activities are given up or reduced because of the use of the substance.
 8. Recurrent use of the substance in situations in which it is physically hazardous.
 9. Use of the substance is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
 10. Tolerance, as defined by either of the following:
 - a. A need for markedly increased amounts of the substance to achieve intoxication or desired effect.
 - b. A markedly diminished effect with continued use of same amount of the substance.
 11. Withdrawal, as manifested by either of the following:
 - a. The characteristic withdrawal syndrome for other (or unknown) substance.
 - b. The substance is taken to relieve or avoid withdrawal symptoms.

The severity of the SUD is a categorical variable, and can be classified based on how many symptoms are identified:

- Mild substance use disorder: 2 or 3 symptoms
- Moderate substance use disorder: 4 or 5 symptoms
- Severe substance use disorder: 6 or more symptoms

To study the presence or absence of SUD in the participants, it will be necessary to evaluate the use of each substance (tobacco, cannabis, and alcohol) separately. Considering that three out of four of the instruments used in this study measure the severity of substance use in the previous 12 months and knowing that teenagers tend to start consumption between 13 and 14 years old, participants will have to take these tests each year from 12 to 16 years old. They will fill out the tests during their annual visit to the pediatrician.

The dependent variable, substance use disorder (SUD), will also be treated as a categorical variable with four possible outcomes considering the three substances of study (tobacco, alcohol, and cannabis):

- Absence of SUD
- SUD of one of the substances of study
- SUD of two of the substances of study
- SUD of all three of the substances of study

9.6.3. Covariables

- **Type of adoption:** categorized in international or national.
- **Sex:** categorized in male, female or intersexual.
- **Gender:** categorized in cisgender, transgender, or non-binary.
- **Age of the child at adoption:** measured in years.

- **Age of the child at the beginning of the study:** measured in years.
- **Country of origin:** presented in different nationalities.
- **Type of substance of use:** categorized in cannabis, tobacco, and alcohol.
- **Family structure:** this variable is based on the relationship of the adoptive parents. It can be divided in biparental and monoparental families. The biparental families can also be divided in homosexual or heterosexual couples.
- **Socioeconomic status:** it will be studied using the Family Affluence Scale (FAS), which measures the family wealth. It can be divided in: low, medium and high affluence.
- **Educational level of the adoptive parents:** this variable will be collected at the beginning of the study by the child's pediatrician. According to the answer of the parents, each of them will be categorized in one of the following groups:
 - No studies
 - Primary studies
 - Secondary studies
 - University degree
- **Substance use of the adoptive family:** this variable will be studied using the clinical history of the adoptive parents. Each parent will be categorized in: non-user of substances, past user of substances and actual user of substances. The substances studied will be studied separately.
- **Substance use of the biological family:** this variable will also be studied using the clinical history of the biological parents, considering that in some adoptions, this kind of information is not always available. If necessary, this study will contact the adoption services to get this information.

- **Other diagnostics:** this variable will be studied using the clinical history of the child, and it will be considered the possibility of participants being diagnosed during the process of this study.

- **Intelligence quotient (IQ):** this covariable will be assessed by the Wechsler Abbreviated Scale of Intelligence (WASI). Based on the result of this scale, participants will be classified in:
 - Low IQ* (<90)
 - Normal IQ (90-120)
 - High IQ (>120)

*Participants with an IQ lower than 70 points will be excluded of this study, as indicated previously in the exclusion criteria.

- **Quality of pre-adoption experiences:** it will be measured using the Child Trauma Screen.

9.7. MEASURING INSTRUMENTS

-**ASCT:** this test will be codified according to the CCH system, which stands for “Cartas para Completar Historias”. The ASCT provides information about attachment in children from ages 3 to 8 years old. It consists in the presentation of a series of unfinished stories, using a family of puppets. It is a very useful investigation tool due to its capability to get information about the pattern and characteristic of the individual’s attachment, and it also provides the investigator with good indicators of the psychoaffective development of the child(61).

The ASCT test takes between 20 to 50 minutes, and it must be videotaped for its posterior correction, which is done using the Q-Sort method to evaluate the narrations of the seven proposed unfinished stories. The approximated correction time is about 2 hours. This correction provides the scores in scales which indicate their situation among the four main axis: secure, avoidant, anxious, and disorganized.

-CaMir-R: this questionnaire measures the attachment representations and the conception of family functionality in adolescence and early adulthood(62). This test is validated in individuals older than 14 years old, and it consists of a list of 32 items that the participant must answer in a scale of 5 points:

1. Completely disagree: 1 point
2. Disagree: 2 points
3. Neither agree nor disagree: 3 points
4. Agree: 4 points
5. Completely agree: 5 points

This test takes between 15 and 30 minutes and it must be answered by the adolescent without the need of a supervisor (ANNEX 9). Then, a professional takes the test and scores it, and based on the results, they will determine the teenager's attachment pattern.

-IGA-A: this index, called *Índice de Gravedad de la Adicción para Adolescentes*, provides a scale of the severity of the addiction in the patient. It evaluates the affection in 6 areas: psychiatric, legal, social, familiar, work and studies(63).

-Fagerström test: to measure the use of tobacco among the participants, the instrument used in this study is the adolescent version of the Fagerström test (FTNDa). This test consists in a series of 6 questions, and the cut point can change according to different authors (ANNEX 8). This study will consider the cut point defined by Becoña and Vázquez (64) is 5 points, considering that a score of 6 or higher is a high dependence and scores of 5 or lower are medium or low dependence(65).

-CAST: to study the consumption of cannabis use, the Cannabis Abuse Screening Test will be used (CAST). This test is a screening scale to identify problematic use of cannabis, and it is validated in the spanish language (ANNEX 6). It has proved to have good psychometric properties to evaluate the severity of cannabis dependence in the previous 12 months and is the most reliable one(66). It considers 6 different items, which can be scored from 1 (never) to 5 (very often). According to

Cuenca-Royo et al.(67), the cut points define three different groups: individuals with 0-2 points are non problematic users, 3-6 are low risk individuals, and 7 or higher are high risk users(68).

-AUDIT: to measure alcohol use and dependence in the population of this study, we will use the AUDIT test. This test has been validated by the World Health Organization (WHO) and it consists of 10 questions scored from 0 to 4 (ANNEX 7). According to the scores, there are four main risk categories(69):

- **0-7 points:** low risk
- **8-15 points:** medium risk
- **16-19 points:** high risk
- **20-40 points:** probable addiction

-Family Affluence Scale (FAS): this six-items scale measures the family wealth, and it was developed by the World Health Organization (WHO) (ANNEX 4). The responses of this scale can be scored from 0 to 13 points(70):

- 0-3 points: low affluence
- 4-6 points: medium affluence
- 7-13 points: high affluence

-Wechsler Abbreviated Scale of Intelligence II (WASI-II): this scale will determine the intelligence quotient of the participants. It is an individually administered intelligence test, and its goal is to assess overall cognitive capabilities of people from 6 to 90 years old. The form used in this study is the short one, which takes about 15 minutes, because it is a rapid and valuable way of assessing the intelligence of the participants. This form will study the Vocabulary and Matrix Reasoning of the children. Vocabulary measures their word knowledge, verbal concept formation, fund of knowledge, crystallized intelligence, and degree of language development. Matrix Reasoning measures perceptual organization, spatial ability, and fluid and visual intelligence. The combination of these two subtests provides an accurate estimation of the children's IQ(71).

-Child Trauma Screen (CTS): this recently developed 10-item screen is a rapid, universal, and free test and it studies potentially traumatic events (PTEs) and posttraumatic stress disorder (PTSD) symptoms. This questionnaire is available for children from 6 to 17 years old. In the case of the participants from ages between 4 and 6 years old that enter the study, they will have to answer this test in their first visit to the pediatrician with 6 years old (ANNEX 5). The report must be answered by the children and by the caregiver, and it can be administered as a self-report form or as an in-person interview. The CTS is divided in the Event items (4 items) and the Reaction items (6 items). The Event items are dichotomic ones, with only two possible answers: YES or NO. The Reaction items can be measured from 0 (never or hardly ever) to 3 points (3 or more times a week)(72). Therefore, the participants will be classified in two main groups: positive or negative in child trauma(73). The requisites established to be positive in child trauma are:

- Having a score of 1 point or higher in the Event items
- Having a score of 8 or higher on caregiver report or a score of 6 or higher in child report

9.8. DATA COLLECTION

This study will need the participation of pediatricians working in CAPs in the region of Girona, as well as Mental Health professionals in the XSMA of this same region. The pediatricians will have to collect information related to the substance use of the participants, their attachment patterns and other personal information related to the topics of this study. The psychiatrists and psychologists working in the *Centre de Salut Mental Infantil i Juvenil (CSMIJ)* of Girona will be necessary to establish the attachment pattern among the participants at the beginning of the study by using the ASCT/CCH test, and they will also study their IQ and the quality of their pre-adoption life.

The Mental Health Network of Girona is divided in seven counties (Alt Empordà, Baix Empordà, Gironès i Pla de l'Estany, Garrotxa, Ripoll, Selva Interior and Selva Marítima) and offers their services to an approximated population of 800.000 patients(74). Considering the population of adopted children in Catalonia during the last 6-7 years, there is a chance the population of the region of Girona might not be enough to meet the sample size required in this study. We will take this into consideration and contact with professionals in other health regions of Catalonia, providing them information about this study and offering them to participate in it.

-Data collection when the participant is 4-8 years old

During the first evaluation, the pediatrician will have to hand the participants the information sheet and the informed consent (ANNEX 3). They will also have to hand them the **data collection sheet** (ANNEX 2), which requests information related to:

- Sex
- Gender
- Age at adoption
- Age at the beginning of the study
- Country of origin
- Type of adoption
- Family structure

- Other diagnosis
- Socioeconomic status*
- Educational level of the adoptive parents
- Substance use of the adoptive parents
- Substance use of the biological parents

**The socioeconomic status will be measured using the Family Affluence Scale (ANNEX 5)*

Once the participant is already in the study and has fulfilled the tests performed by the pediatrician, they will have to visit the CSMIJ, where professionals will evaluate them on the **WASI-II test**, the **Children Trauma Scale** (which also must be answered by at least one of the caregivers) and the **ASCT/CCH** evaluation.

-Data collection when the participant is 12 years old

During their visit with the pediatrician, the participant will have to answer four short tests that will evaluate their relation to substance use (IGA-A, CAST, Fagerström test and AUDIT).

-Data collection when the participant is 13-15 years old

Considering that the tests related to substance use only evaluate the relation to substances in the previous 12 months, this study has decided to evaluate the participants each year during their adolescence (12 to 16 years old). Therefore, each year between 13 and 15 years old, they will be tested using the CAST, Fagerström test and AUDIT.

-Data collection when the participant is 16 years old

During their last visit to the pediatrician, the participant will have to answer the same tests performed when they were 12 years old (IGA-A, CAST, Fagerström test and AUDIT), as well as a last test to evaluate their attachment pattern one last time (CaMir-R). Lastly, if during the study the child has been diagnosed with some medical condition, this information must be introduced in the study by the pediatrician.

DATA COLLECTION						
Data collection	4-8 years old	12 years old	13 years old	14 years old	15 years old	16 years old
<i>Information sheet</i>	X					
<i>Family Affluence Scale</i>	X					
<i>ASCT/CCH</i>	X					
<i>Child Trauma Screen</i>	X					
<i>WASI-II</i>	X					
<i>IGA-A</i>		X				
<i>Fagerström test</i>		X	X	X	X	X
<i>CAST</i>		X	X	X	X	X
<i>AUDIT</i>		X	X	X	X	X
<i>CaMir-R</i>		X				X

10. STATISTICAL ANALYSIS

10.1. Descriptive analysis

The independent variable, type of attachment patterns, will be statistically considered a categorical variable, as it will be measured by a test with a range of four possible outcomes (secure, avoidant, anxious, and disorganized). This variable will be measured at the beginning of the study (ages 4 to 8 years old) and at the end of it (16 years old). The exposed group will be formed by the children with insecure (avoidant, anxious, and disorganized) patterns, and the non-exposed group will be formed by the participants with secure attachment patterns.

The dependent variable, substance use disorder (SUD), will also be treated as a categorical variable with four possible outcomes considering the three substances of study (tobacco, alcohol, and cannabis):

- Absence of SUD
- SUD of two of the substances of study
- SUD of one of the substances of study
- SUD of all three substances of study

The following covariables will be considered **categorical**:

- Type of adoption
- Sex
- Gender
- Country of origin
- Type of substance used
- Family structure
- Socioeconomic status
- Educational level of the adoptive parents
- Substance use of the adoptive parents
- Substance use of the biological parents
- Other diagnosis
- Quality of pre-adoption life
- Severity of addiction

The following covariables will be considered **quantitative**:

- Age of the child at adoption
- Age of the child at the beginning of the study
- IQ

Categorical variables will be expressed as relative frequencies and percentages. On the other hand, quantitative variables will be described by mean \pm standard deviation (when there is a normal distribution) or median and interquartile range (if there is not a normal distribution).

10.2. Bivariate statistical inference

The comparison of variables between exposed and non-exposed individuals will be done using Student-t test or Mann-Whitney test for quantitative variables and Chi-square test or Fisher exact test for categorical variables.

The comparison of SUDs between adopted individuals with secure attachment (non-exposed group) and insecure attachment (exposed group) will be performed using a Chi-square test.

The proportion of attachment patterns among adopted children and adolescents will also be studied using a Chi-square test, as it will also be used to observe if there are differences between national and international adoptions in terms of attachment patterns and substance use. The same type of test will be the one chosen for analysing the relation between insecure attachment and severity of SUD and the relation between the quality of pre-adoption life and attachment patterns.

10.3. Multivariate analysis

The Cox regression analysis will be used to quantify the multivariate-adjusted risk of SUDs between the secure and insecure groups. This regression will be adjusted by the covariables of this study, to avoid confounders and obtain interpretable results. The validity of the proportionality assumption for the predictor variables will be graphically verified. The results of this study will be expressed as absolute numbers and percentages, means, standard deviations, hazard ratios, and 95% confidence intervals. Lastly, statistical tests will be significant for a two-tailed p-value <0.05 .

11. WORKPLAN

The professionals involved in this study will be:

- **Investigators:** the medical professionals in charge of the project, who will collect all the data obtained and introduce it in the study's database, and a statistical expert, who will manage all this data.
- **Collaborators:** this includes the pediatricians in the CAPs of the region of Girona (and other health regions if necessary) and the psychiatrists and psychologists working in the CSMIJ of Girona.

1. **Phase 1: coordination (4 months)**

- I. Study design: investigators will design the protocol of this study. The principal investigator will initiate, manage, and ensure the funding and resources of this study, as well as select the work team in charge of the project.
- II. Follow-up meetings: at the beginning of the study, the investigators will present the project to the representative professionals of both the CSMIJ of Girona and the pediatrician service in a face-to-face meeting. The investigator will also provide to them the appropriate and necessary information to ensure the correct conduction of the study.
- III. Framework establishment: the principal investigator will ensure the participation of the different centres in which the follow-up period will be performed.
- IV. Final project design: the investigators will finish the design of the project, considering the opinion of the rest of the collaborators implied in the study.
- V. Project evaluation and approval: the final project will be presented to the CEIC (Comitè d'Ètica d'Investigació Clínica) of the Institut d'Assistència Sanitària de Girona.

2. **Phase 2: participants' inclusion, evaluation, and data collection (12 years)**

- I. Participants recruitment period: the inclusion of patients will be done in the CAPs of Girona, and it will finish once the sample size is achieved. If the participants in the region of Girona are not enough to achieve the sample size needed, the rest of participants will be recruited from other regions of Catalonia. Investigators and collaborators will make sure that all participants and their caregivers will have signed the informed consent and the information sheet.
- II. Participants evaluation period: this period will start simultaneously with the recruitment, and it will finish when the last participant included in the study turns 16 years old and is properly evaluated. Participants will be evaluated 6 times during the study, as explained in the *data collection* segment. All the follow-up visits will be programmed at the baseline point, and the visits will be set up by the pediatricians.
- III. Data collection and processing: all data collected by the collaborators will be registered in the study database and handed to the statistical expert to process.
- IV. In person meetings: during the study, face-to-face meetings will be performed each year with the intention to discuss the progress of the study and ensure motivational collaboration, as well as to solve any possible question or limitation found through the process. In addition, the main investigator will evaluate the quality and homogeneity of the recruiting process and data collection.

3. **Phase 3: data statistical analysis (3 months)**

During this phase, the investigator and the statistical expert will conduct the analysis of the data collected during the study.

- I. Monitoring analysis: two statistical analyses will be performed during the study in order to control the progress of the work.
- II. Final analysis: this analysis will be performed at the end of the study when all data has been collected.

4. **Phase 4: final report (4 months)**

- I. Interpretation of results: the data processed by the statistical expert will show the results of the study, which will be analysed and interpreted in this phase. Lastly, investigators will define the final discussion and conclusions of the study.
- II. Face-to-face meetings: there will be a final meeting including the representatives of all the parts involved in the study to discuss the results.
- III. Final report elaboration

5. **Phase 5: publication and dissemination (3 months)**

The results of the study will be published and disseminated in reports, journal articles, or conference presentations.

12. CHRONOGRAM

PHASE 1	Jan, 2022 – Apr, 2022
Study design	January, February
Follow-up meetings	February
Framework establishment	February, March
Final project design	January, February, March
Project evaluation and approval	March, April

PHASE 2	May, 2022 – May, 2034
Participants recruitment period	2022-2024
Participants evaluation period	2022-2034
Data collection and processing	2022-2034
In person meetings	2022, 2024, 2026, 2028, 2030, 2032, 2034

PHASE 3	2026, 2030, 2034
Monitoring analysis	2026, 2030
Final analysis	2034

PHASE 4	Sep, 2034 - Dec, 2034
Interpretation of results	Sep, 2034 – Oct, 2034
Face-to-face meetings	Nov, 2034 – Dec, 2034
Final report elaboration	Dec, 2034

PHASE 5	Jan, 2034 – Mar, 2034
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13. ETHICAL AND LEGAL CONSIDERATIONS

This study will be carried out in accordance with the human rights and ethical principles defined by the World Medical Association in the Declaration of Helsinki, signed in 1964 and last revised in October 2013.

This work will be submitted for evaluation and approval by the CEIC (Comitè d'Ètica d'Investigació Clínica) of the Institut d'Assistència Sanitària de Girona.

This study will guarantee the confidentiality of all the data obtained during the investigation, according to the “Ley Orgánica 15/1999, de 13 de diciembre, de Protección de Datos de Carácter Personal” and to the recent Regulation 2016/679 of the European Parliament and of the Council of 27th of April 2016. Personal data will be object of automatic treatment, and the participants will have open access to modify or remove their personal data contained in this study.

The authors will consider the articles included in the “Ley 41/2002, de 14 de noviembre, Básica reguladora de la autonomía del paciente y de derechos y obligaciones en materia de información y documentación clínica”, and therefore, all participants will be informed of the clinical, ethical, and legal considerations of this study.

Lastly and having in mind that the participants of the study are minors, themselves and their parents or legal guardians must give their consent, and they both must sign the informed consent as specified in the “Real Decreto 1090/2015, de 4 de diciembre”. In case of conflict, the decisions of the minor shall prevail, as provided by the “Real Decreto 223/2004, de 6 de febrero”.

The authors declare no conflict of interests.

14. STUDY LIMITATIONS

By analysing this study, some limitations that interfere in the investigation have been detected and considered. The most relevant ones are the following:

- This cohort study has a very long period of follow-up (8-12 years), which was considered necessary to determine the relation between attachment during childhood and substance use during adolescence. This broad follow-up increases the risks of having a considerable number of participants dropping out of the study, especially towards adolescence. This limitation has been considered and corrected in the calculation of the size of the sample by using an estimated loss percentage of 30%. Moreover, the phone numbers of the adoptive parents have been requested in order to facilitate the follow-up.
- The inclusion criteria of this study are not easy to find among the whole population considering that, eventhough the number of adoptions in Catalonia is high, the rate of adopted children related to non-adopted children is notoriously low. This limitation will imply a bigger effort to reclute the number necessary of participants in this study.
- The number of covariables interfering with the objective of this work is quite considerable. Therefore, considering that the chances of these covariables affecting the outcomes of this study are high, researchers will measure them and take them into consideration in the results.
- The CCH/ASCT test will be used to measure the attachment patterns among children from ages 4 to 8 years old. To correctly use this instrument, the evaluator needs experience and time, as the test takes about 20-50 minutes. Moreover, evaluating the results of the test is also a hard task to do. This study will consider this limitation and will emphasize in properly teaching and evaluating the implementation of this test to the professionals implied in this process.

- Some participants might not be completely honest when answering the tests. To minimize this bias, it will be important to provide them with a safe space and grant them anonymity to allow them to feel secure to be honest.
- Considering the high number of pediatricians included in the study, a possible limitation is low involvement from them. To avoid this from happening, the investigators will focus on motivating as much as possible the collaborators working in this work.
- Since the method of sample selection is non-probabilistic, the participants of this study will be selected considering their access to the CAPs in the region of Girona. Therefore, a selection bias can result of this method because an unknown part of adopted children might not have access to the CAPs. Nevertheless, considering the high accessibility to public health in Catalonia and taking into account that adoptive families are identified by public institutions, this study predicts that this selection bias will be very low and will not have a major effect in the outcome and results.
- Lastly, there is a chance the population of Girona will not be enough to reach the needed population of the study. If given the case, participants will search for more population in other regions such as Barcelona city or its surroundings.

15. FEASIBILITY

The XSMA of Girona is part of the IAS and it provides mental healthcare to an approximate population of 755.000 people within the province of Girona. It is divided in two main areas: hospital care and community care. These two areas are in constant communication and work hand in hand to provide the best services possible.

In addition, psychiatrists working at the IAS specialized in attachment and SUDs will be available and have shown interest in collaborating actively in this study, combining this task with their assistance activities.

On the other hand, the community healthcare system in Girona is regulated by the *Institut Català de la Salut (ICS)* via the *CAPs* located in the region. In all the *CAPs* there is a specialized *Equip d'Atenció Primària (EAP)*, which includes a pediatrician.

In reference to the sample, the calculations have been made by using the annual number of adoptions in Catalonia and the estimated population in the region of Girona(57,74–76). We could not get access to information about the number of adoptions in the province of Girona, but we estimated that the sample needed could be obtained by only including the adopted youth in this province through the last years.

The budget has been adjusted as much as possible, considering the long follow-up of this cohort study. The resources have been optimized in order to have to provide this study with the highest feasibility possible.

For all these reasons, we consider that this study is feasible regarding the availability of the sample, the professionals involved in this work and the estimated budget necessary to carry out this task. In addition, the mental health network and the pediatricians of the community healthcare are both based on communication between services, allowing the follow-up and the data collection throughout the study.

16. BUDGET

EXPENSES	COSTS (€)
<i>Staff expenses</i>	
Statistical expert (140h x 20€/h)	2.800
<i>Material</i>	
Questionnaires, scales, and tests	2.000
ASCT equipment	200
<i>Publication and dissemination</i>	
Publication in open access journal	1.500
Congresses (2 people) with registration, travel, and accommodation	3.000
<i>TOTAL</i>	9.500

All collaborators in the study that will visit and attend participants will not receive financial compensation for their work in the research, as they will be part of the Public Health services. The main investigator will not be included in the budget either, as they will be a psychiatrist working in the XSMA of Girona. In addition, the instruments applied in this study are available in all the centres and the only cost resulting from using them will be printing expenses.

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18. ANNEXES

ANNEX 1: DSM-V DIAGNOSTIC CRITERIA FOR SUBSTANCE USE DISORDER

- A. A problematic pattern of use of an intoxicating substance leading to clinically significant impairment of distress, as manifested by at least two of the following, occurring within a 12-month period:
1. The substance is often taken in larger amounts or over a longer period than was intended.
 2. There is a persistent desire or unsuccessful effort to cut down or control use of the substance.
 3. A great deal of time is spent in activities necessary to obtain the substance, use the substance or recover from its effects.
 4. Craving, or a strong desire to use the substance.
 5. Recurrent use of the substance resulting in a failure to fulfill major role obligations at work, school, or home.
 6. Continued use of the substance despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of its use.
 7. Important social, occupational, or recreational activities are given up or reduced because of the use of the substance.
 8. Recurrent use of the substance in situations in which it is physically hazardous.
 9. Use of the substance is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
 10. Tolerance, as defined by either of the following:
 - a. A need for markedly increased amounts of the substance to achieve intoxication or desired effect.
 - b. A markedly diminished effect with continued use of same amount of the substance.
 11. Withdrawal, as manifested by either of the following:
 - a. The characteristic withdrawal syndrome for other (or unknown) substance.
 - b. The substance is taken to relieve or avoid withdrawal symptoms.

ANNEX 2: INFORMATION SHEET

Full d'informació del participant

-Títol de l'estudi: *Role of attachment in the development of substance use disorders among adopted youth*

-Principals investigadors: Antoni Artigues Martínez i Domènec Serrano Sarbosa

Benvolgut/da, agraïm el seu interès en la participació en aquest estudi que es realitzarà des de la Xarxa de Salut Mental a la província de Girona. El consum de substàncies entre la població adolescent és un problema d'alta rellevància, perquè s'ha definit aquest període del desenvolupament com el de major risc d'aparició d'un consum problemàtic d'alcohol i altres drogues. Aquest consum té una important repercussió en el context familiar i comunitari dels adolescents, i és un deure de la comunitat sanitària formar part de la resolució i el tractament d'aquest problema.

A més, estudis previs demostren l'existència d'una relació entre el consum de substàncies i el procés adoptiu, fet que justifica encara més la necessitat de tenir en compte l'adopció en l'abordatge del tractament i la prevenció dels trastorns per ús de substàncies.

La seva col·laboració en aquest estudi és de gran ajuda per poder desenvolupar aquesta recerca i per ajudar a la comunitat científica a trobar respostes respecte als dubtes envers aquesta problemàtica. A continuació, li expliquem amb detall els motius pels quals demanem la seva participació en l'estudi, per tal que pugui decidir si està interessat/da en col·laborar en aquest treball.

Llegeixi detingudament la següent informació i no dubti en consultar qualsevol dubte amb la persona que li entrega el document si ho considera necessari. Li recordem que la seva participació és totalment voluntària i que, si decideix no participar, això no repercutirà en el tracte que rebrà per part dels professionals sanitaris.

Generalitats del projecte

L'estudi serà dut a terme per un grup de professionals de la Xarxa de Salut Mental i Addiccions de Girona, i el temps aproximat de seguiment serà d'entre 8 i 12 anys. El projecte de recerca ha estat valorat i aprovat pel Comitè d'Ètica d'Investigació Clínica de l'Institut d'Assistència de Girona. Els participants de l'estudi col·laboraran responnent a un seguit de proves que s'aniran fent durant les visites al pediatre/a o al CSMIJ de Girona.

Objectius i finalitats de l'estudi

Un dels factors de risc pel consum de substàncies durant l'adolescència és el tipus de vincle que ha format l'infant amb la seva família durant la infància: s'ha vist en diversos estudis que tenir un vincle insegur és un factor de risc per desenvolupar un trastorn per ús de substàncies (TUS), mentre que tenir un vincle segur s'ha definit com un factor protector. Ara bé, la informació respecte a aquesta relació encara presenta algunes incògnites que no s'han estudiat suficientment. En el cas de la població adoptada la informació és encara menor, i és per això que aquest estudi es vol centrar a estudiar la relació entre el vincle i el consum de substàncies en la població adoptada.

Participació

La seva participació en l'estudi és totalment voluntària i el participant (en aquest cas el vostre fill/a) és lliure d'abandonar l'estudi en qualsevol moment, sense necessitat de justificacions i sense que aquesta decisió afecti la seva assistència sanitària. La participació en aquesta investigació és totalment gratuïta i no s'obtindrà cap compensació econòmica en relació amb aquesta.

Els participants seran entrevistats en el moment en què decideixin entrar a l'estudi per part del seu pediatre/a i amb la intenció d'elaborar una història clínica, juntament amb una història clínica dels pares adoptius i biològics. Una vegada s'hagi realitzat aquesta primera part de l'estudi, el participant haurà de visitar el CSMIJ de Girona, on un expert en Salut Mental i en la teoria del vincle li passarà una prova d'una duració aproximada de 20-50 minuts.

La segona part de l'estudi es farà quan el participant tingui 12 anys, i consistirà a contestar tres enquestes breus cada any durant la visita al pediatre/a. Aquests tests serveixen per valorar el consum de substàncies (tabac, alcohol i cannabis) i seran totalment anònims. Només el participant i els investigadors tindran accés als resultats d'aquests tests per tal de preservar l'anonimat del menor i per evitar possibles biaixos. Aquestes enquestes són molt ràpides i fàcils de passar, i les podrà contestar a la mateixa consulta de pediatria.

Finalment, als 16 anys i durant l'última consulta amb el seu pediatre/a, el pacient haurà de respondre les tres enquestes sobre el consum de substàncies i una nova enquesta breu per valorar el seu tipus de vincle al final de l'estudi. Aquestes proves també seran anònimes per tal de vetllar pels drets dels participants.

Confidencialitat i protecció de dades

S'aplicaran les mesures necessàries per a garantir la confidencialitat de les dades dels participants en compliment de la Llei Orgànica 15/1999 de Protecció de Dades de Caràcter Personal i el nou reglament de la Unió Europea 2016/679. Per això, les dades seran recollides i gestionades de manera anònima i només s'utilitzaran amb fins d'investigació. També es garantiran els articles descrits a la Llei 14/2007 d'investigació biomèdica.

Resultats i beneficis de la investigació

El participant està en el seu dret de ser informat dels resultats obtinguts de la investigació, així com es respectarà la seva voluntat de no ser informat en cas que així ho desitgi. Els resultats derivats de la investigació podran beneficiar altres persones en situacions similars i serviran de base per futures investigacions.

Hoja de información del participante

-Título del estudio: *Role of attachment in the development of substance use disorders among adopted youth*

-Principales investigadores: Antoni Artigues Martínez y Domènec Serrano Sarbosa

Apreciado/a, agradecemos su interés en la participación en este estudio que se realizará desde la Red de Salud Mental en la provincia de Girona. El consumo de sustancias entre la población adolescente es un problema de alta relevancia, porque se ha definido este periodo del desarrollo como el de mayor riesgo de aparición de un consumo problemático de alcohol y otras drogas. Este consumo tiene una importante repercusión en el contexto familiar y comunitario de los adolescentes, y es un deber de la comunidad sanitaria formar parte de la resolución y el tratamiento de este problema.

Además, estudios previos demuestran la existencia de una relación entre el consumo de sustancias y el proceso adoptivo, hecho que justifica todavía más la necesidad de tener en cuenta la adopción en el abordaje del tratamiento y la prevención de los trastornos por uso de sustancias.

Su colaboración en este estudio es de gran ayuda para poder desarrollar esta investigación y para ayudar en la comunidad científica a encontrar respuestas respecto a las dudas hacia esta problemática. A continuación, le explicamos con detalle los motivos por los cuales pedimos su participación en el estudio, para que pueda decidir si está interesado/da al colaborar en este trabajo.

Lea detenidamente la siguiente información y no dude al consultar cualquier duda con la persona que le entrega el documento si lo considera necesario. Le recordamos que su participación es totalmente voluntaria y que, si decide no participar, esto no repercutirá en el trato que recibirá por parte de los profesionales sanitarios.

Generalidades del proyecto

El estudio será llevado a cabo por un grupo de profesionales de la Red de Salud Mental y Adicciones de Girona, y el tiempo aproximado de seguimiento será de entre 8 y 12 años. El proyecto de investigación ha sido valorado y aprobado por el Comité de Ética de Investigación Clínica del Instituto de Asistencia de Girona. Los participantes del estudio colaborarán respondiendo a una serie de pruebas que se irán haciendo durante las visitas al pediatra o al CSMIJ de Girona.

Objetivos y finalidades del estudio

Uno de los factores de riesgo por el consumo de sustancias durante la adolescencia es el tipo de vínculo que ha formado el niño con su familia durante la infancia: se ha visto en varios estudios que tener un vínculo inseguro es un factor de riesgo para desarrollar un trastorno por uso de sustancias (TUS), mientras que tener un vínculo seguro se ha definido como un factor protector. Ahora bien, la información respecto a esta relación todavía presenta algunas incógnitas que no se han estudiado suficientemente. En el caso de la población adoptada la información es todavía menor, y es por eso por lo que este estudio se quiere centrar a a el estudiar la relación entre el vínculo y el consumo de sustancias en la población adoptada.

Participación

Su participación en el estudio es totalmente voluntaria y el participante (en este caso vuestro hijo/a) es libre de abandonar el estudio en cualquier momento, sin necesidad de justificaciones y sin que esta decisión afecte su asistencia sanitaria. La participación en esta investigación es totalmente gratuita y no se obtendrá ninguna compensación económica en relación con esta.

Los participantes serán entrevistados en el momento en que decidan entrar en el estudio por parte de su pediatra y con la intención de elaborar una historia clínica, junto con una historia clínica de los padres adoptivos y biológicos. Una vez se haya realizado esta primera parte del estudio, el participante tendrá que visitar el CSMIJ de Girona, donde un experto en Salud Mental y en la teoría del vínculo le pasará una prueba de una duración aproximada de 20-50 minutos.

La segunda parte del estudio se hará cuando el participante tenga 12 años, y consistirá a contestar tres encuestas breves cada año durante la visita al pediatra. Estas macetas sirven para valorar el consumo de sustancias (tabaco, alcohol y cannabis) y serán totalmente anónimos. Solo el participante y los investigadores tendrán acceso a los resultados de estas macetas para preservar el anonimato del menor y para evitar posibles sesgos. Estas encuestas son muy rápidas y fáciles de pasar, y las podrá contestar a la misma consulta de pediatría.

Finalmente, a los 16 años y durante la última consulta con su pediatra, el paciente tendrá que responder las tres encuestas sobre el consumo de sustancias y una nueva encuesta breve para valorar su tipo de vínculo al final del estudio. Estas pruebas también serán anónimas para velar por los derechos de los participantes.

Confidencialidad y protección de datos

Se aplicarán las medidas necesarias para garantizar la confidencialidad de los datos de los participantes en cumplimiento de la Ley Orgánica 15/1999 de Protección de Datos de Carácter Personal y el nuevo reglamento de la Unión Europea 2016/679. Por eso, los datos serán recogidas y gestionadas de manera anónima y solo se utilizarán con hasta de investigación. También se garantizarán los artículos descritos a la Ley 14/2007 de investigación biomédica.

Resultados y beneficios de la investigación

El participante está en su derecho de ser informado de los resultados obtenidos de la investigación, así como se respetará su voluntad de no ser informado en caso de que así lo desee. Los resultados derivados de la investigación podrán beneficiar otras personas en situaciones similares y servirán de base por futuras investigaciones.

ANNEX 3: INFORMED CONSENT

Consentiment informat

-Títol de l'estudi: *Role of attachment in the development of substance use disorders among adopted youth.*

Jo (Nom i Cognoms) _____

Afirmo que:

- He llegit la fulla informativa que se m'ha entregat sobre l'estudi en qüestió.
- He pogut fer totes les preguntes necessàries per resoldre els dubtes que tenia respecte l'estudi.
- He rebut tota la informació necessària sobre l'estudi.
- He entès la informació proporcionada sobre la meva participació a l'estudi.
- He estat informat per l'investigador _____ de les implicacions i finalitats de l'estudi.
- Entenc que la meva participació en l'estudi és voluntària i que puc deixar de participar en aquest en qualsevol moment de la seva duració sense necessitat de donar una justificació.
- Entenc que es preservarà l'anonimat de les meves dades i que aquestes seran tractades amb confidencialitat.
- Entenc quin serà el meu paper com a participant de l'estudi.

Amb tot això present, **ACCEPTO** voluntàriament participar en aquest estudi.

Dono permís per tal que els investigadors del projecte contactin amb mi per via telefònica per a concretar les visites de seguiment.

Signatura del participant i del seu tutor/a legal

Signatura de l'investigador

_____, _____ de _____ de 20__

Consentimiento informado

-Título del estudio: *Role of attachment in the development of substance use disorders among adopted youth.*

Yo (Nombre y Apellidos) _____

Afirmo que:

- He leído la hoja informativa que se me ha entregado sobre el estudio en cuestión.
- He podido hacer todas las preguntas necesarias para resolver las dudas que tenía respecto el estudio.
- He recibido toda la información necesaria sobre el estudio.
- He entendido la información proporcionada sobre mi participación en el estudio.
- He sido informado por el investigador _____ de las implicaciones y finalidades del estudio.
- Entiendo que mi participación en el estudio es voluntaria y que puedo dejar de participar en este en cualquier momento de su duración sin necesidad de dar una justificación.
- Entiendo que se preservará el anonimato de mis datos y que estas serán tratadas con confidencialidad.
- Entiendo cuál será mi papel como participante del estudio.

Con todo esto presente, ACEPTO voluntariamente participar en este estudio.

Doy permiso para que los investigadores del proyecto contacten conmigo por vía telefónica para concretar las visitas de seguimiento.

Firma del participante y de su tutor/a legal

Firma del investigador

_____, _____ de _____ de 20__.

ANNEX 4: DATA COLLECTION SHEET

Full d'informació mèdica

Títol de l'estudi: *Role of attachment in the development of substance use disorders among adopted youth.*

Codi del participant: _____

Data: ___ / ___ / _____

Telèfons de contacte:

Participant: _____

Pare/Mare 1: _____

Pare/ Mare 2: _____

Dades personals de l'infant:

- **Sexe:** Masculí Femení Intersexual
- **Gènere:** Masculí Femení No binari
- **Data de naixement:** ___ / ___ / _____
- **Edat de l'infant en el moment de l'adopció:** _____ anys
- **País d'origen:** _____
- **Tipus d'adopció:** Nacional Internacional
- **Estructura familiar:**
 - Biparental (homosexual) Biparental (heterosexual)
 - Monoparental
- **Diagnòstics de l'infant:** _____

Dades dels pares/mares adoptius/ves:

- **Nivell socioeconòmic (valorat amb el test FAS):**
 - Baix Intermig Alt
- **Nivell educatiu:**
 - Sense estudis Estudis primaris Estudis secundaris
 - Estudis universitaris

- **Ha consumit alguna de les següents substàncies durant els últims 12 mesos?**

- | | | |
|--------------|-----------------------------|-----------------------------|
| Alcohol: | <input type="checkbox"/> Sí | <input type="checkbox"/> No |
| Tabac: | <input type="checkbox"/> Sí | <input type="checkbox"/> No |
| Cannabis: | <input type="checkbox"/> Sí | <input type="checkbox"/> No |
| Opiacis: | <input type="checkbox"/> Sí | <input type="checkbox"/> No |
| Amfetamines: | <input type="checkbox"/> Sí | <input type="checkbox"/> No |
| Cocaïna: | <input type="checkbox"/> Sí | <input type="checkbox"/> No |

- **En cas de resposta afirmativa a la pregunta anterior, quin ha estat el seu consum?**

- | | | | | |
|--------------|-------------------------------------|-----------------------------------------|-------------------------------------|-------------------------------------|
| Alcohol: | <input type="checkbox"/> Un cop/dia | <input type="checkbox"/> Un cop/setmana | <input type="checkbox"/> Un cop/mes | <input type="checkbox"/> Un cop/any |
| Tabac: | <input type="checkbox"/> Un cop/dia | <input type="checkbox"/> Un cop/setmana | <input type="checkbox"/> Un cop/mes | <input type="checkbox"/> Un cop/any |
| Cannabis: | <input type="checkbox"/> Un cop/dia | <input type="checkbox"/> Un cop/setmana | <input type="checkbox"/> Un cop/mes | <input type="checkbox"/> Un cop/any |
| Opiacis: | <input type="checkbox"/> Un cop/dia | <input type="checkbox"/> Un cop/setmana | <input type="checkbox"/> Un cop/mes | <input type="checkbox"/> Un cop/any |
| Amfetamines: | <input type="checkbox"/> Un cop/dia | <input type="checkbox"/> Un cop/setmana | <input type="checkbox"/> Un cop/mes | <input type="checkbox"/> Un cop/any |
| Cocaïna: | <input type="checkbox"/> Un cop/dia | <input type="checkbox"/> Un cop/setmana | <input type="checkbox"/> Un cop/mes | <input type="checkbox"/> Un cop/any |

Dades de la família biològica:

- **Teniu constància de si qualque membre (mare o pare biològics) de la família biològica consumia alguna d'aquestes substàncies? En cas afirmatiu, marqueu també el membre que consumia aquesta substància.**

- | | | | | | |
|--------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|---------------------------------|
| Alcohol: | <input type="checkbox"/> Sí | <input type="checkbox"/> No | <input type="checkbox"/> Pare | <input type="checkbox"/> Mare | <input type="checkbox"/> Ambdós |
| Tabac: | <input type="checkbox"/> Sí | <input type="checkbox"/> No | <input type="checkbox"/> Pare | <input type="checkbox"/> Mare | <input type="checkbox"/> Ambdós |
| Cannabis: | <input type="checkbox"/> Sí | <input type="checkbox"/> No | <input type="checkbox"/> Pare | <input type="checkbox"/> Mare | <input type="checkbox"/> Ambdós |
| Opiacis: | <input type="checkbox"/> Sí | <input type="checkbox"/> No | <input type="checkbox"/> Pare | <input type="checkbox"/> Mare | <input type="checkbox"/> Ambdós |
| Amfetamines: | <input type="checkbox"/> Sí | <input type="checkbox"/> No | <input type="checkbox"/> Pare | <input type="checkbox"/> Mare | <input type="checkbox"/> Ambdós |
| Cocaïna: | <input type="checkbox"/> Sí | <input type="checkbox"/> No | <input type="checkbox"/> Pare | <input type="checkbox"/> Mare | <input type="checkbox"/> Ambdós |

No consta informació sobre el pare biològic, però sí sobre la mare

No consta informació sobre la mare biològica, però sí sobre el pare

No consta informació sobre cap dels progenitors biològics

ANNEX 5: FAMILY AFFLUENCE SCALE (FAS)

FAMILY AFFLUENCE SCALE (FAS)

1. Té la teva família cotxe propi o furgoneta?

No Sí, un/a Sí, més d'un/a

2. Tens un dormitori per a tu sol?

No Sí

3. Quants ordinadors té la teva família?

Cap 1 2 Més de dos

4. Quants banys hi ha a casa teva?

1 2 Més de dos

5. Té la teva família un rentavaixelles?

No Sí

6. Durant els últims 12 mesos, quantes vegades has anat de vacances amb la teva família?

Cap 1 2 Més de dues

ANNEX 6: CHILD TRAUMA SCREEN

CTS

Child Report (Age 6-17)

Spanish Version

1

Child Name/ID: _____ Age: _____ Gender: Male Female Other

Administered By: _____ Date Completed: _____

2

EVENTOS: A veces pasan cosas que asustan o alteran a las personas. Estas cosas a veces afectan la forma cómo pensamos, lo que sentimos y lo que hacemos.

	Si	No
1. ¿Alguna vez has visto personas empujándose, pegándose, o arrojándose cosas las unas a las otras, o apuñalándose, disparándose, o tratando de hacerse daño las unas a las otras?	<input type="checkbox"/>	<input type="checkbox"/>
2. ¿Alguna vez alguien te ha lastimado seriamente? ¿Te ha pegado, dado puñetazos o patadas muy duro, con manos, cinturones u otros objetos, o ha tratado de dispararte con un arma o apuñalarte?	<input type="checkbox"/>	<input type="checkbox"/>
3. ¿Alguna vez alguien te ha tocado en las partes de tu cuerpo que se tapan con un traje de baño, de una manera que te hizo sentir incómodo(a)? ¿O te hizo tocar las partes de su cuerpo que se tapan con un traje de baño, de una manera que te hizo sentir incómodo(a)?	<input type="checkbox"/>	<input type="checkbox"/>
4. ¿Te ha sucedido alguna otra cosa que te molestó o te asustó mucho? (p.ej. alguien que tú querías murió, fuiste separado de un ser querido, te dejaron solo(a) por mucho tiempo, no tuviste suficiente comida, un accidente o enfermedad seria, incendio, mordida de perro, fuiste intimidado(a) por alguien) ¿Qué fue? _____	<input type="checkbox"/>	<input type="checkbox"/>

3

REACCIONES: A veces situaciones que son miedosas o molestas afectan la forma como las personas piensan, sienten y actúan. Las siguientes preguntas se tratan sobre cómo te has estado sintiendo y lo que has estado pensando recientemente.

Con qué frecuencia te sucedieron cada una de las siguientes cosas en los últimos 30 días?

	Nunca/ raramente	1-2 veces al mes	1-2 veces a la semana	3+ veces a la semana
5. Fuertes sensaciones en tu cuerpo cuando recuerdas algo que sucedió (sudoración, latidos rápidos del corazón, sentirs enfermo)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Intentas evitar personas, lugares o cosas que te hacen recordar algo que sucedió.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Te cuesta trabajo sentirte feliz.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Te cuesta trabajo dormir.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Te es difícil concentrarte o prestar atención.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
10. Te sientes solo/a y alejado/a de las personas a tu alrededor.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>

NOTAS:

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CTS

Caregiver Report (Age 6-17)

Spanish Version

1

Child Name/ID: _____ Age: _____ Gender: Male Female Other

Administered By: _____ Date Completed: _____

2

EVENTOS: A veces pasan cosas que asustan o alteran a las personas. Estas cosas a veces afectan la forma cómo pensamos, lo que sentimos y lo que hacemos.

	Si	No
1. ¿Alguna vez tu niño/a ha visto personas empujándose, pegándose, o arrojándose cosas las unas a las otras, o apuñalándose, disparándose, o tratando de hacerse daño las unas a las otras?	<input type="checkbox"/>	<input type="checkbox"/>
2. ¿Alguna vez alguien le ha lastimado seriamente? ¿Le ha pegado, dado puñetazos o patadas muy duro, con manos, cinturones u otros objetos, o ha tratado de dispararle con un arma o apuñalarle?	<input type="checkbox"/>	<input type="checkbox"/>
3. ¿Alguna vez alguien le ha tocado en las partes de su cuerpo que se tapan con un traje de baño, de una manera que le hizo o te hizo sentir incómodo(a)? ¿O alguien le ha hecho tocar las partes de su cuerpo que se tapan con un traje de baño, de una manera que le hizo o te hizo sentir incómodo(a)?	<input type="checkbox"/>	<input type="checkbox"/>
4. ¿Le ha sucedido alguna otra cosa que le molestó o le asustó mucho? (p.ej. alguien que quería murió, fue separado de un ser querido, le dejaron solo(a) por mucho tiempo, no tuvo suficiente comida, sufrió un accidente o enfermedad seria, incendio, mordida de perro, fue intimidado(a) por alguien) ¿Qué fue? _____	<input type="checkbox"/>	<input type="checkbox"/>

3

REACCIONES: A veces situaciones que son miedosas o molestas afectan la forma como las personas piensan, sienten y actúan. Las siguientes preguntas se tratan sobre cómo su niño/a se ha sentido y lo que ha estado pensando recientemente.

Con qué frecuencia le sucedieron cada una de las siguientes cosas en los <u>últimos 30 días</u> ?	Nunca/ raramente	1-2 veces al mes	1-2 veces a la semana	3+ veces a la semana
5. Siente fuertes sensaciones en su cuerpo cuando recuerda algo que sucedió (sudoración, latidos rápidos del corazón, sentirse enfermo)	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
6. Intenta evitar personas, lugares o cosas que le hacen recordar algo que sucedió.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
7. Le cuesta trabajo sentirse feliz.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
8. Le cuesta trabajo dormir.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
9. Le es difícil concentrarse o prestar atención.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
10. Se siente solo/a y alejado/a de las personas a su alrededor.	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>

NOTAS:

ANNEX 7: CANNABIS ABUSE SCREENING TEST (CAST)

CAST

¿Con qué frecuencia te ha ocurrido algo de lo que se describe a continuación en los últimos 12 meses?

Pon una 'X' en un cuadrado de cada fila. En total has de poner 6 "X", porque hay 6 filas de cuadrillos.

	Nunca	Raramente	De vez en cuando	Bastante a menudo	Muy a menudo
1. ¿Has fumado <i>Cannabis</i> <u>antes del mediodía</u> ?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. ¿Has fumado <i>Cannabis</i> <u>estando solo/a</u> ?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. ¿Has tenido <u>problemas de memoria</u> al fumar <i>Cannabis</i> ?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. ¿Te han dicho <u>los amigos o miembros de tu familia</u> que deberías reducir el consumo de <i>Cannabis</i> ?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. ¿Has intentado reducir o dejar de consumir <i>Cannabis</i> <u>sin conseguirlo</u> ?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. ¿Has tenido problemas <u>debido a tu consumo</u> de <i>Cannabis</i> (disputa, pelea, accidente, mal resultado escolar, etc.)? ¿Cuáles?: /...../	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

ANNEX 8: AUDIT

Cuadro 10					
Test de Identificación de Trastornos por consumo de alcohol: versión de auto-pase.					
<p>PACIENTE: Debido a que el uso del alcohol puede afectar su salud e interferir con ciertos medicamentos y tratamientos, es importante que le hagamos algunas preguntas sobre su uso del alcohol. Sus respuestas serán confidenciales, así que sea honesto por favor. Marque una X en el cuadro que mejor describa su respuesta a cada pregunta.</p>					
Preguntas	0	1	2	3	4
1. ¿Con qué frecuencia consume alguna bebida alcohólica?	Nunca	Una o menos veces al mes	De 2 a 4 veces al mes	De 2 a 3 más veces a la semana	4 o más veces a la semana
2. ¿Cuántas consumiciones de bebidas alcohólicas suele realizar en un día de consumo normal?	1 o 2	3 o 4	5 o 6	De 7 a 9	10 o más
3. ¿Con qué frecuencia toma 6 o más bebidas alcohólicas en un solo día?	Nunca	Menos de una vez al mes	Mensualmente	Semanalmente	A diario o casi a diario
4. ¿Con qué frecuencia en el curso del último año ha sido incapaz de parar de beber una vez había empezado?	Nunca	Menos de una vez al mes	Mensualmente	Semanalmente	A diario o casi a diario
5. ¿Con qué frecuencia en el curso del último año no pudo hacer lo que se esperaba de usted porque había bebido?	Nunca	Menos de una vez al mes	Mensualmente	Semanalmente	A diario o casi a diario
6. ¿Con qué frecuencia en el curso del último año ha necesitado beber en ayunas para recuperarse después de haber bebido mucho el día anterior?	Nunca	Menos de una vez al mes	Mensualmente	Semanalmente	A diario o casi a diario
7. ¿Con qué frecuencia en el curso del último año ha tenido remordimientos o sentimientos de culpa después de haber bebido?	Nunca	Menos de una vez al mes	Mensualmente	Semanalmente	A diario o casi a diario
8. ¿Con qué frecuencia en el curso del último año no ha podido recordar lo que sucedió la noche anterior porque había estado bebiendo?	Nunca	Menos de una vez al mes	Mensualmente	Semanalmente	A diario o casi a diario
9. ¿Usted o alguna otra persona ha resultado herido porque usted había bebido?	No		Sí, pero no en el curso del último año		Sí, el último año
10. ¿Algún familiar, amigo, médico o profesional sanitario ha mostrado preocupación por un consumo de bebidas alcohólicas o le ha sugerido que deje de beber?	No		Sí, pero no en el curso del último año		Sí, el último año
					Total

ANNEX 9: FAGERSTRÖM TEST

Test de Fagerström para la Dependencia de Nicotina

Nombre: _____

Fecha: ___/___/___

1.- ¿Cuánto tarda después de despertarse en fumar su primer cigarrillo?

en los 5 primeros minutos	3
entre los 6 y los 30 minutos	2
entre los 31 y los 60 minutos	1
después de 60 minutos	0

2.- ¿Encuentra difícil abstenerse de fumar en sitios donde está prohibido, tales como iglesia, biblioteca, autobús, cine, etc.?

Sí	1
No	0

3.- ¿A qué cigarrillo odiaría más renunciar?

el primero de la mañana	1
cualquier otro	0

4.- ¿Cuántos cigarrillos fuma al día?

10 o menos	0
11 a 20	1
21 a 30	2
31 o más	3

5.- ¿Fuma más frecuentemente durante las primeras horas después de despertarse que durante el resto del día?

Sí	1
No	0

6.- ¿Fuma cuando está tan enfermo que pasa en la cama la mayor parte del día?

Sí	1
No	0

PUNTUACIÓN OBTENIDA: _____

(Heatherton TF, Kozlowski LT, Frecker RC, Fagerström KO. The Fagerström Test for Nicotine Dependence: a revision of the Fagerström Tolerance Questionnaire. *Br J Addict* 1991;86:1119-27. Versión española de Becoña E, Vázquez FL. The Fagerström Test for Nicotine Dependence in a Spanish sample. *Psychol Rep* 1998;83:1455-8)

ANNEX 10: CAMIR-R

Anexos 1. CAMIR-R*

Nombre:

Fecha de Nacimiento: Fecha de hoy:

Este cuestionario trata sobre las ideas y sentimientos que tienes de tus relaciones personales y familiares. Tanto del presente, como de tu infancia. Lee cada frase y rodea el número de la opción que mejor describa tus ideas y sentimientos.

Los resultados de este cuestionario son confidenciales

Opciones de respuesta:

5.- Muy de acuerdo

2.- En desacuerdo

4.- De acuerdo

1.- Muy en desacuerdo

3.- Ni de acuerdo, ni en desacuerdo

1	Las amenazas de separación, de traslado a otro lugar, o de ruptura de los lazos familiares son parte de mis recuerdos infantiles	1	2	3	4	5
2	Mis padres eran incapaces de tener autoridad cuando era necesario	1	2	3	4	5
3	En caso de necesidad, estoy seguro(a) de que puedo contar con mis seres queridos para encontrar consuelo	1	2	3	4	5
4	Desearía que mis hijos fueran más autónomos de lo que yo lo he sido	1	2	3	4	5
5	En la vida de familia, el respeto a los padres es muy importante	1	2	3	4	5
6	Cuando yo era niño(a), sabía que siempre encontraría consuelo en mis seres queridos	1	2	3	4	5
7	Las relaciones con mis seres queridos durante mi niñez, me parecen, en general, positivas	1	2	3	4	5
8	Detesto el sentimiento de depender de los demás	1	2	3	4	5
9	Sólo cuento conmigo mismo para resolver mis problemas	1	2	3	4	5
10	Cuando yo era niño(a), a menudo, mis seres queridos se mostraban impacientes e irritables	1	2	3	4	5
11	Mis seres queridos siempre me han dado lo mejor de sí mismos	1	2	3	4	5
12	No puedo concentrarme sobre otra cosa, sabiendo que alguno de mis seres queridos tiene problemas	1	2	3	4	5
13	Cuando yo era niño(a), encontré suficiente cariño en mis seres queridos como para no buscarlo en otra parte	1	2	3	4	5
14	Siempre estoy preocupado(a) por la pena que puedo causar a mis seres queridos al dejarlos	1	2	3	4	5
15	Cuando era niño(a), tenían una actitud de dejarme hacer	1	2	3	4	5
16	De adolescente, nadie de mi entorno entendía del todo mis preocupaciones	1	2	3	4	5

17	Cuando yo era niño(a), teníamos mucha dificultad para tomar decisiones en familia	1	2	3	4	5
18	Tengo la sensación de que nunca superaré la muerte de uno de mis seres queridos	1	2	3	4	5
19	Los niños deben sentir que existe una autoridad respetada dentro de la familia	1	2	3	4	5
20	Mis padres no se han dado cuenta que un niño(a) cuando crece tiene necesidad de tener vida propia	1	2	3	4	5
21	Siento confianza en mis seres queridos	1	2	3	4	5
22	Mis padres me han dado demasiada libertad para hacer todo lo que yo quería	1	2	3	4	5
23	Cuando yo era niño(a), tuve que enfrentarme a la violencia de uno de mis seres queridos	1	2	3	4	5
24	A partir de mi experiencia de niño(a), he comprendido que nunca somos suficientemente buenos para los padres	1	2	3	4	5
25	Cuando yo era niño(a), se preocuparon tanto por mi salud y mi seguridad, que me sentía aprisionado(a)	1	2	3	4	5
26	Cuando me alejo de mis seres queridos, no me siento bien conmigo mismo	1	2	3	4	5
27	Mis padres no podían evitar controlarlo todo: mi apariencia, mis resultados escolares e incluso mis amigos	1	2	3	4	5
28	Cuando era niño(a), había peleas insostenibles en casa	1	2	3	4	5
29	Es importante que el niño aprenda a obedecer	1	2	3	4	5
30	Cuando yo era niño(a), mis seres queridos me hacían sentir que les gustaba compartir su tiempo conmigo	1	2	3	4	5
31	La idea de una separación momentánea con uno de mis seres queridos, me deja una sensación de inquietud	1	2	3	4	5
32	A menudo, me siento preocupado(a), sin razón, por la salud de mis seres queridos	1	2	3	4	5

*Balluerka, N., Lacasa, F., Gorostiaga, A., Muela, A. y Pierrehumbert, B. (2011). Versión reducida del cuestionario CaMir (CaMir-R) para la evaluación del apego. *Psicobema*, 23, 486-494.

