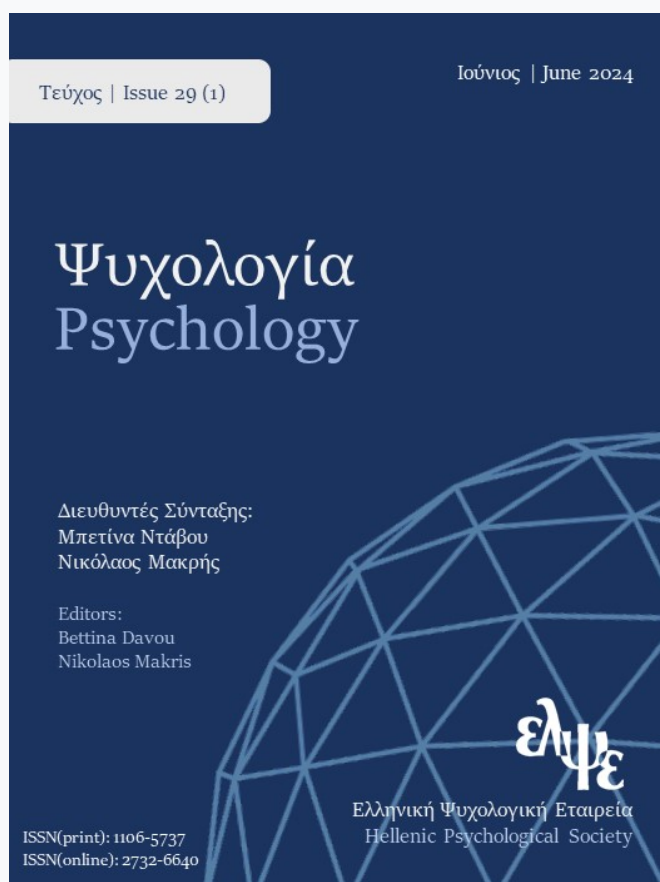


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## ΕΜΠΕΙΡΙΚΗ ΕΡΓΑΣΙΑ | RESEARCH PAPER

# Prevalence of Adverse Childhood Experiences (ACEs) in child sex offenders and associations with health indicators

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## KEYWORDS

Adverse childhood experiences  
Child sex offenders  
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## ABSTRACT

This study aimed to evaluate the prevalence of ACEs among child sex offenders in Greece and their associations with specific health indicators (e.g., smoking, alcoholism). A cross-sectional study was conducted (between February and April 2023) using a convenience sample of 158 child sex offenders in Tripolis prison, Greece. The questionnaire included demographic and criminal information, the BRFSS ACEs module, and four additional childhood experiences (death of a parent or sibling, etc.). Their mean age was 50.5 years (min=22, max=83, range=61), and the majority were smokers (62%) and had at least one chronic disease (63.3%). Small percentages used drugs (7.6%) and were alcoholics (8.2%). The mean ACEs score was .76 (min=0, max=6, range=6). One out of three offenders (33.5%) had experienced at least one ACE and 6.3% had four or more ACEs. The most common ACEs were intimate partner violence (15.8%), physical abuse (13.3%), and parental separation/divorce (12.7%). Smaller percentages were recorded for substance abuse and emotional abuse (10.8%), incarcerated household members (10.1%), sexual abuse (7.59%), and mental health problems of household members (0.6%). Those with four or more ACEs had a higher likelihood of being smokers (odds ratio=5.97, 95% CI: 1.074-48.335) and alcoholics (odds ratio=1.37, 95% CI: 1.028-1.124). Age was negatively correlated with the ACEs scores ( $r=-.312$ ,  $p<.001$ ). In conclusion, these offenders reported many ACEs, but fewer than those found in other studies abroad. Future research should further examine the preliminary findings of this study.

## Introduction

Adverse Childhood Experiences (ACEs) refer to various traumatic events or circumstances that affect children before the age of 18 years. Such experiences include multiple types of abuse; neglect; violence between parents or caregivers; other kinds of serious household dysfunction such as alcohol and substance abuse; and peer, community, and collective violence. This concept is increasingly being recognized as a public health crisis, and the cumulative effects of these experiences lead to a wide range of deleterious physical and psychological outcomes (Centers for Disease Control and Prevention, 2022).

Such adverse childhood experiences are common across all parts of society (Centers for Disease Control and Prevention, 2022). Traumatic events are uniquely experienced by each person, and their impacts vary depending on the meaning attached to the experience and resilience (Substance Abuse and Mental Health Services Administration, 2023). Childhood adversity is not typically an isolated event, and it can therefore create a web of

experiences by which a child organizes an understanding of the self, others, and the world (Bloom et al., 2014). Exposure to ACEs can stimulate distorted cognitive schemas, poor self-regulatory capacities, and unhealthy attachment styles, all of which can contribute to the risk of engaging in crime. Moreover, people who commit sexual crimes perceive a connection between their past trauma and sex offenses (Grady et al., 2017).

Research has demonstrated direct and indirect relationships between various ACEs and subsequent criminal behavior, including sexual offending (Grady et al., 2017). Trauma has recently attracted significant attention as a potential contributor to the development of sexual offenses due to the well-documented high rates of adverse childhood experiences (ACEs) among individuals who have committed sexual crimes (Grady et al., 2017; Kahn et al., 2021).

However, only a few studies have examined this field. The childhood histories of offenders convicted of sexual crimes are characterized by high rates of physical abuse, sexual abuse, and/or dysfunctional family relations. More specifically, the childhood histories of sexually violent offenders are characterized by neglect, violence, and disruption within the home (Ramirez et al., 2015).

Compared with the general population, individuals who committed sexual crimes reported higher rates of child sexual abuse, physical abuse, verbal abuse, and emotional neglect, and they were more likely to be raised by single parents in turbulent households (Drury et al., 2017; Kahn et al., 2021; Levenson et al., 2016).

More specifically, Levenson et al. (2016) found that compared to males in the general population, sex offenders had more than three times the odds of child sexual abuse (CSA), nearly twice the odds of physical abuse, thirteen times the odds of verbal abuse, and more than four times the odds of emotional neglect and coming from a broken home. Less than 16% endorsed zero ACEs, and nearly half endorsed four or more ACEs. Multiple maltreatment often co-occurs with other types of household dysfunction, suggesting that many sex offenders are raised in a disordered social environment. Similarly, youths who sexually offended had significantly higher prevalence rates of ACEs than other adolescents in the juvenile justice system (Levenson et al., 2017).

Kahn et al. (2021) found that higher ACEs scores in sex offenders were associated with an increased risk of psychopathology, including anxiety disorders, depressive disorders, substance use disorders, and antisocial personality disorder. ACEs related to family dysfunction are uniquely associated with alcohol use disorder and the presence of a dual diagnosis of paraphilia and personality disorder.

The percentage of ACEs reported by sex offenders varies across studies. Graham (1996) examined two hundred and eighty-six sex offenders from a treatment milieu and 70% of them admitted to being sexually abused as a child and 50% admitted to physical abuse. Offenders who were both sexually and physically abused reported feeling more alienated than other offenders did. Offenders who were physically abused by both parents reported higher levels of dissociation, and offenders who reported no abuse had the highest social desirability. Similarly, Dhawan and Marshall (1996) found in their study that 8 of 16 child molesters (50%) were classified as having been sexually abused.

In another study, Haapasalo and Kankkonen (1997) found that sex offenders reported significantly more psychological abuse, especially verbal abuse, and tended to have experienced slightly more physical and sexual abuse than violent offenders. In general, sex offenders remembered their parents in a more negative light than the comparison group and appeared to come from a more abusive childhood family environment.

Elliott et al. (1995) collected information from 87 male child sex offenders and found that 68% of them had been sexually abused as children and fifty-nine percent described some form of contact sexual abuse during their victimization. Their mean age while experiencing sexual abuse was 9.75 years.

Neofytou (2022) examined the trauma histories of female sex offenders and found that childhood sexual abuse history was the most common type of maltreatment, along with physical abandonment, emotional abandonment, mental illness at home, and family instability due to divorced or unmarried parents, contributing to the development of sexual offending behaviors.

Childhood sexual abuse (CSA) is likely the most severe form of abuse or neglect, not only because of the serious and destructive nature of victimization itself, but also because of the downstream psychological, psychiatric, and criminological problems that are produced (Glasser et al., 2001). A unique feature of CSA is that it can be predictive of CSA abusers subsequently engaging in sexual aggression. This form of specialization is known as the “sexually abused→sexual abuser hypothesis”.

A history of sexual abuse appears to be an important factor in the background of sexual offenders and has been associated with other aspects of a disturbed family background (Dhawan & Marshall, 1996). Empirical findings indicate that many adult sexual offenders experience sexual abuse during their childhood. It has been suggested that characteristics of offenders' sexual perpetrating behaviors may resemble their own victimization experiences, although there has been minimal empirical investigation in this area (Romano & De Luca, 1997).

Not all victims of sexual abuse become perpetrators, and not all perpetrators have experienced childhood abuse, suggesting that the experience of sexual abuse appears to be neither a necessary nor sufficient condition for committing a sexual crime (Salter et al., 2003). Sexual abuse alone does not cause violent sexual behavior, but a pattern of experiences consisting of physical abuse and emotional rejection alongside sexual abuse may increase the risk of male victims of sexual abuse becoming abusers themselves (Ramirez et al., 2015).

The association between ACEs and health indicators has been extensively examined in the general population, and studies have revealed that traumatic experiences early in life significantly increase the risk of various unhealthy behaviors and adverse health outcomes, such as smoking, obesity, heart disease, etc. (Felitti et al., 1998). However, these associations have not been evaluated in forensic samples, especially for sex offenders and child sex offenders.

The present study aimed to evaluate self-reported ACEs of imprisoned child sex offenders in Greece. In other words, we sought to record the prevalence and specific ACEs of these offenders. Another objective was to examine whether these ACEs are associated with specific health indicators (e.g., smoking, alcoholism, and drug usage).

## Method

### *Participants*

Participants were selected based on the following eligibility criteria: 1) prisoners with sufficient ability to understand and respond to questions, 2) ability to speak and understand the Greek language, and 3) persons wishing to participate voluntarily in the research. Individuals who did not wish to participate voluntarily in the research and those who could not respond to the questions were excluded from the study.

Participants reported their age, education, job, marital status, country of birth, and place of residence before imprisonment. The demographic characteristics are presented in Table 1.

Based on their answers, their job was classified as related/not related to children, and their offenses were classified as intrafamilial/extrafamilial and contact/non-contact. Furthermore, they also reported their victims' gender, age at first imprisonment (for any crime), and the time (in months) that they were imprisoned.

According to the eligibility criteria, 158 imprisoned child sex offenders participated in the study. Their mean age was 50.5 years ( $M=50.52$ ,  $SD=13.11$ ,  $Min=22$ ,  $Max=83$ ,  $Range=61$ ). Concerning their education, they had attended the school or university for an average of nine years ( $M=9.11$ ,  $SD=4.23$ ,  $Min=0$ ,  $Max=20$ ,  $Range=20$ ).

Concerning their health, they answered if they suffered from a chronic disease and had a disability certification. Additionally, they provided information about their smoking status and their drug or alcohol history and answered whether they had taken psychiatric medication.

**Table 1.** Demographic characteristics of the sample

	Frequency	Percentage %
<b>Age group</b>		
21-30 years old	7	4.43
31-40 years old	32	20.25
41-50 years old	44	27.85
51-60 years old	37	23.42
61-70 years old	27	17.09
71-80 years old	9	5.69
>80 years old	2	1.27
<b>Marital Status</b>		
Single	33	20.9
Married/living with a partner	63	39.9
Separated	17	10.8
Divorced	36	22.8
Widower	9	5.7
<b>Years of education</b>		
0 years (illiterate)	8	5.1
1-6 years	53	33.5
7-9 years	31	19.6
10-12 years	37	23.4
13-14 years	10	6.3
15-16 years	16	10.1
More than 16 years	3	1.9
<b>Country of birth</b>		
Greece	124	78.5
Abroad	34	21.5
<b>Place of residence before the imprisonment</b>		
Attica	70	44.3
Central Greece (Greek: Sterea Ellada)	9	5.7
Epirus	2	1.3
Macedonia	1	0.6
Peloponnese	21	13.3
Aegean Islands	19	12.0
Ionian Islands	2	1.3
Crete	32	20.3
Abroad	2	1.3
<b>Job</b>		
Unemployed	5	3.2
Laborer	12	7.6
Farmer	17	10.8
Civil servant	21	13.3
Private employee	47	29.7
Freelancer	36	22.8
Pensioner	20	12.7
<b>Job related to children</b>		
Yes	19	12.0
No	139	88.0

## Measures

A composite questionnaire was used, which included demographic and criminal information and the BRFSS ACEs module. We also recorded the frequency of four additional childhood experiences (see below).

**BRFSS ACEs module.** Adverse Childhood Experiences were measured using the Behavioral Risk Factor Surveillance System (BRFSS) ACEs module. It was adapted from the original CDC-Kaiser ACE study (Felliti et al., 1998) and used to collect information on child abuse and neglect and household challenges. The CDC-Kaiser Permanente Adverse Childhood Experiences (ACE) study is one of the largest investigations of childhood abuse and neglect, household challenges, and later-life health and well-being. The original ACE study was conducted at Kaiser Permanente from 1995 to 1997, with a sample of 17,000 participants from Southern California (Felliti et al., 1998). The BRFSS ACEs module includes 11 questions, and respondents are asked to reflect on the period before 18 years of age. These questions can be combined into the following eight types of exposures across three areas:

### Household dysfunction

1. Mental illness: “Did you live with anyone who was depressed, mentally ill, or suicidal?” (yes/no)
2. Substance abuse: “Did you live with anyone who was a problem drinker or alcoholic?” (yes/no) and
3. “Did you live with anyone who used illegal street drugs or who abused prescription medications?” (yes/no)
4. Incarcerated household member: “Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?” (yes/no)
5. Parental separation or divorce: “Were your parents separated or divorced?” (Parents not married set to missing) (yes/no)

### Emotional/Physical Abuse (ever/never)

6. Intimate partner violence: “How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up?” (1=never, 2=once, 3=more than once)
7. Physical abuse: “Not including spanking, (before age 18), how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way?” (1=never, 2=once, 3=more than once)
8. Emotional abuse: “How often did a parent or adult in your home ever swear at you, insult you, or put you down?” (1=never, 2=once, 3=more than once)

### Sexual abuse (ever/never)

9. Sexual abuse: “How often did anyone at least 5 years older than you or an adult, ever touch you sexually?” (1=Never, 2=Once, 3=More than once)
10. “How often did anyone at least 5 years older than you or an adult, try to make you touch them sexually?” (1=Never, 2=Once, 3=More than once)
11. “How often did anyone at least 5 years older than you or an adult, force you to have sex?” (1=Never, 2=Once, 3=More than once).

First, we calculated the cumulative ACE exposure scores before age 18 as the sum of exposure to the eight components (mental illness, substance abuse-2 items, incarcerated household member, parental separation or divorce, intimate partner violence, physical abuse, emotional abuse, and sexual abuse-3 items). The scoring ranges from 0 to 8. Answers with “NO” or “Never” are rated with 0 and any other option with 1. We then categorized the sum of the ACEs into zero, one, two-three, or four or more exposure groups (Merrick et al., 2019; Waehrer et al., 2020).

**Other adverse childhood experiences.** In addition to the experiences rated by the BRFSS ACEs module, we recorded the frequency of four more childhood experiences, which we considered adverse: death of a parent, death of a brother or sister, forced migration, and imprisonment as a minor.

### ***Procedure***

A quantitative cross-sectional study was conducted using a convenience sample of 158 imprisoned child sex offenders in Tripolis prison, Greece. The duration of the study was three months (February-April 2023).

The procedure included translation of the Behavioral Risk Factor Surveillance System Adverse Childhood Experiences (BRFSS-ACEs) module. This module is available in English and Spanish. After the questionnaire was officially translated, it was used for this study. The translation strategy was based on the minimal translation criteria developed by the Scientific Advisory Committee of the Medical Outcomes Trust (2002) and included forward translation, reconciliation, backward translation, and pretesting of the translated instrument. The average time to complete the questionnaire was three minutes.

The questionnaires were distributed and collected by an expert mental health practitioner who worked at this facility. In the case of illiterate offenders, the researcher helped them provide their answers and complete the questionnaire.

One hundred and sixty (160) questionnaires were distributed and one hundred and fifty-eight (158) of them were given back. The response rate in this study was 98.75%.

Approval was sought from the Tripolis Prison and the Ministry of Public Order, Greece, which was granted. Signed informed consent was obtained from all the participants. They were informed in detail about the purpose of the study and were assured of anonymity and confidentiality. They were also assured that the collected data would only be used for the purpose of the study. All participants voluntarily took part, without compensation.

### ***Data analysis***

Data analysis was performed using SPSS, version 28.0. The Kolmogorov-Smirnov test was used to examine the normality of continuous variables. The analysis included descriptive statistics and Pearson's correlation coefficients to examine the linear correlations among the quantitative variables. T-test for independent samples and one-way ANOVA were used to check for statistically significant differences between two or more groups. Moreover, the odds ratio (OR) was calculated to evaluate the relationship between ACEs and health-related indicators (e.g., smoking and alcoholism). The statistical significance level (*p*-value) was set at 5%.

## **Results**

### ***Crime and detention characteristics***

The majority of the sexual offenses were intrafamilial (60.8%) and contact (92.4%). In contrast, 39.2% of these offenses were extrafamilial and 7.6% were non-contact.

The participants' mean age at first imprisonment (for any crime) was 47 years ( $M=46.92$ ,  $SD=14.05$ ,  $Min=16$ ,  $Max=83$ ,  $Range=67$ ). In addition, the mean time that they were imprisoned was 15 months ( $M=15.29$ ,  $SD=23.76$ ,  $min=1$ ,  $max=132$ ,  $range=131$ ).

Concerning the victims, the majority were girls (82.3%), 13.3% were boys and 4.4% were both boy/s and girl/s. In most of the cases (87.3%) the offender knew the victim and only in 12.7% of the cases the victim was unknown to the offender.

### ***History of drug use, alcoholism, and psychiatric medication***

Only a small percentage (7.6%) said that they used drugs before imprisonment and/or were alcoholics (8.2%). In addition, 9.5% of them took psychiatric medication during or before imprisonment.

### ***Other health indicators***

The majority were smokers (62%) and five of them (3.2%) had disability certification. Many of them (63.3%) had at least one chronic disease. The most common chronic conditions were diabetes mellitus and cardiovascular disease.

### ***Family experiences during childhood***

Most prisoners spent their childhood (up to 18 years) with their families and biological parents (86.1%). Eight of them grew up in a single-parent family (5.1%) and seven grew up in a foster family (4.4%). Four grew up with their grandparents (2.5%) and two grew up in a child protection institution (1.3%). Finally, one prisoner grew up alone (0.6%) from a certain age (ten years).

On average, their family of origin had four children ( $M=4.03$ ,  $SD=2.56$ ,  $Min=1$ ,  $Max=14$ ,  $Range=13$ ). Most prisoners reported that their families had three children (including themselves) (25.5%). A percentage of 24.1% reported that they had one sibling and 17.2% had three siblings. Only nine of them (5.7%) were the single children in their family and the rest had many siblings (five siblings=7.6%; six siblings=6.4%; four siblings=5.1%, etc.). Therefore, it appears that most of them grew up in large families. This can be attributed to the fact that many of them were elderly persons and the pattern of the “nuclear family” with two children did not predominate in their family of origin.

It is noteworthy that most prisoners (32.3%) were the first child of their family of origin, and 26.6% and 17.6% of them were second and third children, respectively.

### ***ACEs rated by the BRFSS***

The most common ACEs were intimate partner violence (15.8%), physical abuse (13.3%), and parental separation or divorce (12.7%). Smaller percentages were recorded for substance abuse and emotional abuse (10.8%) and for incarcerated household members (10.1%). Small percentages were recorded for sexual abuse (7.59%) and very small for the mental health problems of a household member (0.6%). Thirty-six participants (22.8%) had experienced household dysfunction (either mental illness/substance abuse of a family member or incarcerated household member or parental separation-divorce). Twenty-five participants (15.8%) had experienced emotional/physical abuse (either intimate partner violence in their family environment or physical or emotional abuse). Finally, twelve participants (7.59%) experienced sexual abuse. The exact percentages for each category are listed in Table 2.

The mean ACEs score was .76. ( $Mean=.76$ ,  $SD=1.38$ ,  $Min=0$ ,  $Max=6$ ,  $Range=6$ ). The ACEs scores range from 0 to 8. In total, one out of three child sex offenders (53-33.5%) reported that they had experienced at least one ACE, and 6.3% had four or more ACEs. More specifically:

1. One hundred and five offenders (66.5%) hadn't experienced an ACE during their childhood
2. Twenty-two of them (13.9%) had experienced one ACE
3. Twenty-one of them (13.29%) had experienced two to three ACEs
4. Ten of them (6.3%) had experienced four or more ACEs

The number of ACEs experienced is presented in detail in Table 3.



**Table 2.** *Adverse Childhood Experiences*

		Frequency	Percentages %
<b>Household Dysfunction</b>	Mental illness	1	0.6%
	Substance abuse	17	10.8%
	Incarcerated household member	16	10.1%
	Parental separation or divorce	20	12.7%
<b>Emotional/Physical Abuse</b>	Intimate partner violence	25	15.8%
	Physical abuse	21	13.3%
	Emotional abuse	17	10.8%
<b>Sexual abuse</b>	Sexual abuse	12	7.59%

**Other Adverse Childhood Experiences**

1. Nine of the participants had experienced the death of a parent during their childhood (5.7%)
2. Two of the participants had experienced the death of a brother or a sister (1.27%)
3. Twelve of them had experienced forced migration (7.6%)
4. Two of them were imprisoned during childhood (1.27%)

**Table 3.** *Number of experienced ACEs (rated by the BRFSS)*

	Frequency	Percentage %
0 ACE	105	66.5
1 ACE	22	13.9
2 ACEs	15	9.5
3 ACEs	6	3.8
4 ACEs	4	2.5
5 ACEs	3	1.9
6 ACEs	3	1.9
7 ACEs	0	0
8 ACEs	0	0

**Differences in ACEs scores in relation to demographic characteristics**

Next, we examined possible differences in ACEs scores based on the demographic characteristics of the sample. We examined these differences by performing a t-test analysis and One-Way Analysis of Variance (ANOVA), and no significant differences were found (Table 4).

**Table 4.** Differences in ACEs scores based on the demographic characteristics of the sample

	ACEs scores	<i>p</i>
<b>Marital Status</b>		
Single	1.00	
Married/living with a partner	.56	NS*
Separated	.71	
Divorced	.92	
Widower	.78	
<b>Country of birth</b>		
Greece	.79	NS*
Abroad	.65	
<b>Place of residence before the imprisonment</b>		
Attica	1.10	
Central Greece (Greek: Sterea Ellada)	.11	
Epirus	2.00	
Macedonia	1.00	NS*
Peloponnese	.43	
Aegean Islands	.53	
Ionian Islands	1.00	
Crete	.41	
Abroad	1.50	
<b>Job</b>		
Unemployed	1.40	
Laborer	.50	
Farmer	.35	NS*
Civil servant	.43	
Private employee	1.02	
Freelancer	.97	
Pensioner	.45	
<b>Job related to children</b>		
Yes	.47	NS*
No	.80	

\*Note. \*NS=no significant

### ***Correlations of the ACEs scores with the participants' age and the age of their first imprisonment***

We explored the correlations between ACEs scores and the participants' age as well as the age at which they were first imprisoned.

A significant negative correlation was found between age and ACEs scores ( $r = -.312, p < .001$ ). That is, the younger offenders reported more ACEs.

Likewise, there was a significant negative correlation between the age of first imprisonment and ACEs scores ( $r = -.316, p < .001$ ). This suggests that offenders who had been imprisoned at a younger age reported more ACEs.

### ***Association of ACEs with specific health indicators***

Finally, we examined the association between ACEs and specific health indicators, e.g., smoking, alcoholism, and drug usage, performing odds ratio analysis.

Those who had experienced four or more Adverse Childhood Experiences had a higher likelihood of being smokers (odds ratio=5.97, 95% Confidence Interval: 1.074-48.335) and alcoholics (odds ratio=1.37, 95% Confidence Interval: 1.028-1.124). The above odds ratio was statistically significant.

Also, they presented a higher likelihood of suffering from a chronic disease (odds ratio=2.44, 95% Confidence Interval: .499-11.876), to be drug users (odds ratio=1.38, 95% Confidence Interval: .16-11.944) and to receive psychiatric medication (odds ratio=2.6, 95% Confidence Interval: .498-10.215). However, the 95% confidence interval for the above three odds ratio included 1 and it means that these results were not statistically significant.

### **Discussion**

This study was carried out to examine in a quantitative design the prevalence of ACEs in a sample of imprisoned child sex offenders and their association with specific health indicators. It is the first study in this field in Greece and this highlights its novelty.

The main result is that these offenders report many ACEs but less than those found in other studies abroad. This finding is different from that reported by other researchers, who have identified a high prevalence of ACEs in individuals who have committed sexual offenses (Graham, 1996; Kahn et al., 2021; Levenson et al., 2016). However, these studies compared the ACEs of sex offenders to the corresponding ACEs of the general population. Such a comparison was not done in the present research, because there are no formal data for the ACEs of the Greek general population. One more explanation for these inconsistent findings is that the above studies have examined sex offenders generally and not exclusively child sex offenders, as the current study did.

More specifically, one out of three child sex offenders (33,5%) in the present study reported that they had experienced at least one ACE, and 6.3% four or more ACEs. Different results were found by Levenson et al. (2016), who found that less than 16% of sex offenders endorsed zero ACEs, and nearly half endorsed four or more in their study.

About their childhood experiences, most of the child sex offenders spent their childhood with their family. However, a pattern of unstable family environment during childhood emerged for some prisoners, due to parents' separation or imprisonment or other reasons. In total, 22.8% of the participants had experienced household dysfunction during their childhood. Contrary to these findings, Levenson et al. (2016) argue that many sex offenders were raised within a disordered environment. Kahn et al. (2021) also found that ACEs related to family dysfunction were uniquely associated with alcohol use disorder. Contrary to these results, this pattern was not supported in the present study.

Moreover, it appears that most of them grew up in large families and they had on average three siblings. This may be attributed to the fact that many of them are elderly persons and the pattern of the "nuclear family" with two children did not predominate in their family of origin.

An interesting result is that most of the prisoners (32.3%) were the first children of their family of origin. It is an unexpected finding that could be further examined in light of Alfred Adler's "family constellation" (birth order in the family) approach (Gallagher & La Lima, 2020). Till now, the family dynamics have not been largely examined in child sex offenders and researchers should further evaluate the possible association between birth order in the family, adverse childhood experiences, and sexual offending against children.

Concerning their specific ACEs, the most common ACEs were intimate partner violence, physical abuse, and parental separation or divorce. Similarly, Levenson et al. (2016) found that sex offenders presented a high

likelihood of coming from a broken home. Smaller percentages were recorded for substance abuse, emotional abuse, and incarcerated household members.

A very small percentage was also recorded in the category "mental health problems of a household member". A significant negative correlation was found between age and ACEs scores. In other words, the younger offenders reported more ACEs. This may be attributed, at least in some cases, to recall bias.

A small percentage had experienced sexual abuse as a child. In contrast to the findings of other studies (Dhawan & Marshall, 1996; Levenson et al., 2016; Romano & De Luca, 1997), it appears that this type of adverse childhood experience is not frequent among these prisoners, despite the widespread beliefs to the contrary. An explanation for this is that some of these offenders might want to present a socially desirable childhood background and do not admit such experiences. Based on the above findings, it seems that the majority of these offenders have not been sexually abused in their childhood and the aspect that sexual abuse causes sexual abuse is a simpleminded and false explanation and a common "myth". However, these results are preliminary and need further examination.

Concerning their drug and alcohol history, only a small percentage said that they used drugs before their imprisonment and/or were alcoholics. In addition, only one out of ten participants took psychiatric medication during or before their imprisonment.

Those who had experienced four or more Adverse Childhood Experiences had a higher likelihood of being alcoholics and smokers. Kahn et al. (2021) found in their study that higher ACEs scores were associated with an increased risk of psychopathology (including anxiety and depressive disorders) and substance use disorders. In this study, the offenders with four or more ACEs also presented a higher likelihood of being drug users and receiving psychiatric medication. However, these results were not statistically significant.

Similarly, the offenders who reported four or more Adverse Childhood Experiences had a higher likelihood of suffering from a chronic disease. This result was not statistically significant, too. Although this positive association is well established in the general population, this topic has not been examined in prisoners and sex offenders and needs further examination with large samples.

A limitation of the current study is that the ACEs of the child sex offenders were not compared with the ACEs of the Greek general population. However, there are no available such data. Another limitation is that when recording ACEs, there may be a recall bias to consider. Specifically, participants, especially the older ones, might not accurately remember their adverse childhood experiences. As Bethell et al. (2017) have said, "ACEs assessment is not intended to document the occurrence of events objectively, but to assess recollection of experiences of such events...perceived experiences drive many of the effects of concern". In addition, we should keep in mind that in forensic settings the ACEs are likely to be presented in a socially desirable manner. This is very important if we take into account the fact that the questionnaires were distributed by a mental health practitioner who works in this prison. Another limitation is that only six health-related variables were included in the study.

Despite these limitations, it is the first related research from Greece and seems to cover a large gap in the scientific field of child molestation and health psychology. The findings and the conclusions could be considered preliminary due to the small sample; however, they provide a basic framework for understanding this topic.

By enhancing our understanding of the frequency and correlates of every type of ACE, we can better plan interventions that respond to the clinical needs of child sex offenders. Therefore, the results of this study may be valuable for researchers, clinicians, and policymakers and could be used to make suggestions for the treatment of child sex offenders and to plan health promotion programs.

Future research would be useful to further examine the findings of this study. These preliminary results could be confirmed by a research design with a large sample of imprisoned child sex offenders. Researchers in this field could also consider integrating qualitative research methods, such as in-depth interviews or case

studies, to complement quantitative data. This approach could provide a richer understanding of individual experiences within the context of family dynamics, potentially shedding light on the pathways from adverse childhood experiences to offending behaviors. The ACEs could also be examined in comparison between subgroups of sex offenders (child sex offenders, rapists with adult victims, etc.) or in child sex offenders across other crime variables (victim's gender, intrafamilial or extrafamilial crime, etc.). Our research team is currently working in this direction. Finally, future studies could also evaluate the association of ACEs with many other health indicators, such as unhealthy dietary patterns, obesity, sedentary lifestyle, participation in exercise within the prison environment, etc.

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## Δυσμενείς εμπειρίες παιδικής ηλικίας σε δράστες σεξουαλικής κακοποίησης ανηλίκων και συσχέτισή τους με δείκτες υγείας

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ΛΕΞΕΙΣ ΚΛΕΙΔΙΑ	ΠΕΡΙΛΗΨΗ
Δυσμενείς Εμπειρίες Παιδικής Ηλικίας Δράστες σεξουαλικής κακοποίησης ανηλίκων Δείκτες υγείας Παιδικό τραύμα Κακοποίηση στην παιδική ηλικία	<p>Σκοπός της παρούσας μελέτης ήταν να αξιολογήσει τη συχνότητα των Δυσμενών Εμπειριών Παιδικής Ηλικίας (Adverse Childhood Experiences-ACEs) των δραστών σεξουαλικής κακοποίησης ανηλίκων στην Ελλάδα και τη συσχέτισή τους με συγκεκριμένους δείκτες υγείας (π.χ. κάπνισμα, αλκοολισμός). Διεξήχθη συγχρονική μελέτη (μεταξύ Φεβρουαρίου-Απριλίου 2023) με δείγμα ευκολίας 158 δραστών σεξουαλικής κακοποίησης ανηλίκων στο Ειδικό Σωφρονιστικό Κατάστημα Τρίπολης. Το ερωτηματολόγιο περιλάμβανε δημογραφικές/ποινικές πληροφορίες, το BRFSS ACEs και τέσσερις επιπλέον ACEs (θάνατος γονέα ή αδερφού κλπ). Τα δεδομένα αναλύθηκαν με το πρόγραμμα SPSS v.28.0. Η μέση ηλικία τους ήταν 50,5 έτη και η πλειοψηφία ήταν καπνιστές (62%) και έπασχαν από τουλάχιστον μία χρόνια νόσο (63,3%). Μικρά ποσοστά έκαναν χρήση ναρκωτικών (7,6%) και ήταν αλκοολικοί (8,2%). Η μέση βαθμολογία στο ερωτηματολόγιο BRFSS ACEs ήταν 0,76. Ποσοστό 33,5% είχε βιώσει τουλάχιστον μια ACE και 6,3% τέσσερις ή περισσότερες. Οι πιο συχνές ACEs ήταν η βία μεταξύ γονέων (15,8%), η σωματική κακοποίηση (13,3%) και ο χωρισμός/διαζύγιο των γονέων (12,7%). Μικρότερα ποσοστά καταγράφηκαν στην κατάχρηση ουσιών μέλους της οικογένειας και τη συναισθηματική κακοποίηση (10,8%), στη φυλάκιση μέλους της οικογένειας (10,1%), στη σεξουαλική κακοποίηση (7,59%) και στα προβλήματα ψυχικής υγείας μέλους της οικογένειας (0,6%). Όσοι είχαν τέσσερις ή περισσότερες ACEs είχαν μεγαλύτερη πιθανότητα να είναι καπνιστές (odds ratio=5,97, 95% CI: 1,074-48,335) και αλκοολικοί (odds ratio=1,37, 95% CI: 1,028-1,124). Η ηλικία συσχετίστηκε αρνητικά με τη βαθμολογία στο BRFSS ACEs (<math>r=-,312</math>, <math>p&lt;,001</math>). Συμπερασματικά, αυτοί οι δράστες ανέφεραν πολλές ACEs αλλά λιγότερες από όσες έχουν βρεθεί σε άλλες μελέτες στο εξωτερικό. Προτείνεται μελλοντική έρευνα για την περαιτέρω εξέταση αυτών των ευρημάτων.</p>
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