Does It Run in the Family? Intergenerational Transmission of Household Dysfunctions

Aitana Gomis-Pomares[1] · Lidón Villanueva[1] · Vicente Prado-Gascó[2]

Abstract

One of the most evident negative outcomes of adverse childhood experiences at vulnerable ages in childhood and adolescence seems to be intergenerational transmission or continuity in later periods of life. Most studies analyze this phenomenon in terms of direct victimizations, but what about the intergenerational transmission of more indirect victimizations, such as household dysfunctions (substance abuse, mental illness, or incarceration in the family)? The objective of this study is to examine if young adults present similar dysfunctions to those they experienced in their family as a child. This study included 420 Spanish young adults aged between 18 and 20 ($M = 18.92$), 63.3% of whom were females. All of them answered self-report questionnaires about household dysfunctions during their childhood and adolescence, and a general questionnaire about current similar behavior (drug and alcohol use, mental health problems and psychological distress, coping strategies, detentions/arrests, and deviant behavior), at the same data collection period. Both regression models and fuzzy qualitative analyses support the intergenerational transmission or continuity of household dysfunctions in this Spanish population. Some household dysfunctions presented a more univocal and specific intergenerational transmission process and others were mainly present in combination to yield negative results.

Keywords Household dysfunctions · Intergenerational transmission · Emerging adulthood · Spanish population · Adverse childhood experiences

Introduction

Early negative life experiences seem to contribute to the impairment of different developmental milestones in children and adolescents, such as outstanding emotional, social and cognitive processes (Felitti et al., 1998). Moreover, risky behavior and strategies are activated to cope with the stress and anxiety caused by these adverse experiences, resulting in a vast array of negative outcomes in later periods of life (Hughes et al., 2017). These negative consequences associated with adverse childhood experiences include problems with psychological wellbeing, antisocial and delinquent behavior (Basto-Pereira et al., 2016; Gomis-Pomares & Villanueva, 2020), mental health and somatic disturbances, sexual dissatisfaction (Anda et al., 2006), autoimmune diseases (Dube et al., 2009), and even premature death (Brown et al., 2009).

Given the vast array of negative outcomes in the individual´s life, these experiences represent a high cost for healthcare systems, social services, or mental health systems (Loxton et al., 2019). Bellis et al. (2019) argue that a 10% reduction in the prevalence of adverse childhood experiences could equate to annual savings of $105 billion in Europe and North America. Ensuring safe and nurturing childhoods would prevent those negative outcomes from appearing and would also be economically beneficial and relieve pressures on all these systems.

However, one of the most long-term consequences of negative experiences in childhood and adolescence that contributes to perpetuating the cycle of violence is the intergenerational transmission or continuity of these experiences

✉ Lidón Villanueva
bvillanu@uji.es

Aitana Gomis-Pomares
apomares@uji.es

Vicente Prado-Gascó
vicente.prado@uv.es

1 Developmental Psychology Department, Universitat Jaume I, Avda. Sos Baynat, s/n 12071, Castellón, Spain

2 Social Department, Universitat de València, València, Spain

(Madigan et al., 2019; Warmingham et al., 2020). Some authors refer to this phenomenon as "the possibility of negative cascading consequences from generation to generation" (Thornberry et al., 2012, p. 136). According to this concept, maltreated children are likely to repeat their maladaptive family patterns when they are adults. Within a social learning perspective, these children seem to assume that there is a set of rules in behavior where the maladaptive patterns are appropriate. Another possible explanation lies in the attachment paradigm: early rejecting experiences seem to be part of the representational models transmitted to the next generation (Kaufman & Ziegler, 1989).

In this context, Kaufman & Ziegler (1989), suggest a widely accepted estimated intergenerational transmission rate of 30% (± 5%) for direct maltreatment (not indirect maltreatment was analyzed), i.e., six times higher than the base rate for abuse in the general population (5%). Nevertheless, some recent reviews offer prevalence rates of continuity ranging from 7 to 88%, depending on a vast array of variables (Langevin et al., 2019). The situation also involves a large number of individuals who fortunately do not repeat the learnt maladaptive patterns. The individuals that broke the cycle of violence presented more social support, were better able to give detailed accounts of their own experience, less likely to have been abused by both parents, and more apt to report a supportive relationship with one of their parents (Berlin et al., 2011; Kaufman & Ziegler, 1989; Langevin et al., 2019).

When it takes place, this intergenerational transmission seems to be stronger for physical abuse (Berlin et al., 2011; Madigan et al., 2019). However, other studies found that the strongest evidence for this link was for sexual abuse and neglect (Widom et al., 2015). In other words, there is no clear answer to this specific question, or at least the answer is still controversial. In fact, most of the meta-analyses carried out to confirm the cycle of maltreatment hypothesis do not provide a definitive answer, and show modest effect sizes (Capaldi et al., 2019; Madigan et al., 2019), and methodologically weaker designs (Thornberry et al., 2012).

Intergenerational Transmission and Household Dysfunctions

There are very few studies examining the transmission of other kind of adverse childhood experiences (ACEs), apart from the very well-known direct victimizations: abuse and neglect (Berzenski et al., 2014). The following question is consequently pertinent: what about the intergenerational transmission of more indirect ACEs, such as household dysfunctions? To what extent do young adults present similar dysfunctions as the ones they experienced in their family? The objective of this study is to analyze whether these early household dysfunctions have negative consequences in later adjustment, and if these negative consequences follow a similar pattern to the household dysfunctions. In specific terms, the intergenerational transmission or continuity of three household dysfunctions in childhood and adolescence will be studied: having incarcerated household members, substance abuse in the household, and mental illness in the household.

Children with incarcerated parents or household members commonly tend to display more behavioral problems (Geller et al., 2009) later in development, and supporting the intergenerational transmission process, an incarcerated household member predicted the likelihood of individuals of presenting subsequent arrests (Besemer et al., 2017a; Muniz et al., 2019), and being incarcerated themselves (Augustyn et al., 2019; Murray & Farrington, 2005), as if these early behavioral problems had continued and even worsened. Some authors suggest that labelling effects might be stronger for children of incarcerated parents (Augustyn et al., 2019; Besemer et al., 2017b), and others appeal to the "linked lives" perspective, in which intertwined relationships (such as those of parents and children) influence each other (Thornberry et al., 2003), in a kind of deviant social learning (van Dijk et al., 2019). Additional risk factors such as a decrease of the parenting quality, an increased exposure to delinquent peers, or material hardship, can also be found (Wildeman, 2020).

The variable of parental mental health is usually considered a mediator or a moderator variable. Not in vain, it is highly relevant that this household dysfunction presents the highest co-occurrence with other ACEs (parental separation, parental convictions, etc.), (Lacey et al., 2020). This variable consistently emerges as a probable mechanism involved in intergenerational transmission (Berzenski et al., 2014; Langevin et al., 2019). Household mental illness has been linked to a higher risk of internalizing problems, such as depression and anxiety (Bevilacqua et al., 2021; Muniz et al., 2019), as well as to a higher risk of externalizing problems (aggression, conduct problems, and criminal activity in children), (Anderson & Hammen, 1993). Nevertheless, other studies offer a more precise picture of this variable which seems to operate differently depending on the specific maltreatment, sometimes reducing rates of transmission (for physical abuse) or increasing those rates (for sexual abuse), (Choi et al., 2019; Pears & Capaldi, 2001). However, no studies with indirect victimizations are known to date.

In contrast to other family dysfunctions, studies have mainly yielded mixed results regarding household substance abuse and intergenerational transmission (Langevin et al., 2019). The studies showing a positive link between the two variables showed that children whose parents consume illegal substances were more likely to also use drugs (Augustyn et al., 2020; Kerr et al., 2020). In some studies, this negative effect was even present across three generations

(Neppl et al., 2020; Tiberio et al., 2020). In addition, substance abuse in the household also predicted externalizing outcomes, such as violence and chronic offending (Edwards et al., 2001; Muniz et al., 2019).

Although household dysfunctions have traditionally been studied as if they were independent, the fact is that these ACEs mostly occur in combination (Berzenski & Yates, 2011). It is also true that it is difficult to find participants who have experienced just one single form of ACE. In fact, the most common situation is an individual presenting several negative experiences in their life, which may have a cumulative effect (Felitti & Anda, 2010). For example, between 12.3% and 70% of children between 0–6 years old were exposed to three or more ACEs (Liming & Grube, 2018), and 81%–98% of adults had experienced at least two ACEs (Dong et al., 2004). The use of various methodologies, such as fuzzy qualitative comparative analysis which enables a combination of several adverse experiences, will therefore provide interesting and complementary information beyond regression models. Both analytical methodologies (regression and fuzzy analysis) will be used in this study.

Finally, research about racial and ethnic differences in ACEs has been scarce (Cronholm et al., 2015), especially in Spanish populations in comparison to English-speaking countries, where the original sample of the ACE study came from (Felitti et al., 1998). In their review of the intergenerational cycle of maltreatment, Langevin et al. (2019) found that 94% of the studies analyzed were carried out in English-speaking countries. One of the key points of collectivism cultures like Spanish society is the value of the family, which can either buffer the impact of ACEs or on the contrary, exacerbate vulnerability among its members (as ACEs are considered an important violation of family obligations), (Allem et al., 2015). Moreover, some studies point out that the subjective perception of adversity may differ in different racial and ethnic contexts. For example, in the study by Mersky and Janczewski (2018), White participants were more likely to report a household dysfunction than Blacks, and Hispanics living in the United States. Forster et al. (2018) also found consistently that in Pacific/Asian culture, adverse childhood experiences were mainly private matters that could stigmatize the family and therefore could not be reported. Cultural nuances in childhood are undoubtedly of great interest for the study of long-term consequences.

Besides considering a different cultural origin, this study tries to overcome the problems associated with self-report recall of traumatic events in a retrospective design. Previous studies have consistently found some difficulties with remembering events that happened during childhood due to the lack of memory or false memories, but most of them were carried out with older adults (Colman et al., 2016). In this study, participants from a younger age range (18–20 years old) are included, as they can outperform older adults in memory capacity (Fuhrmann et al., 2015; Schneider, 2014). In fact, good reliability for retrospective reports of ACEs and outstanding levels of longitudinal continuity have already been reported for this population (McAdams et al., 2006; Pinto et al., 2014).

The Current Study

The contributions made by this study are as follows: the use of non-clinical or at-risk populations, the existence of a comparison group of non-maltreated minors, the inclusion of a valid measure for assessing household dysfunctions, and controls for potential confounding factors (such as gender and age), which are some of the study quality indicators suggested in this field by Madigan et al. (2019). In addition, this study provides a combination of different data analyses (regression models and fuzzy qualitative comparative analysis), as well as an insight into a sample that is geographically distinct from the original study of household dysfunctions by Fellitti et al. (1998). Finally, most studies examine household dysfunction influences in the later stages of adulthood, but not in emerging adulthood, which is also an increasingly important developmental phase in western societies (Arnett, 2000). This study includes emerging adults from 18 to 20 years old, and therefore does not present the weakness of other studies with older participants.

The objective of this study is therefore to analyze if early household dysfunctions present an intergenerational transmission or continuity in Spanish emerging adults. The hypotheses posited are as follows: (1) Substance abuse in the household will be related to a higher substance use and the use of coping strategies based on substance use in emerging adulthood; (2) Having incarcerated household members in childhood will be linked to a higher rate of detentions and arrests, and deviant behaviors in emerging adulthood; (3) Mental illness in the household will be associated with a higher prevalence of mental problems and psychological distress in emerging adulthood.

Method

Participants

The present study included 420 young adults from a province in the Valencian Community in Spain. Their ages ranged between 18 and 20 years, with a mean age of 18.92 ($SD = 0.77$), and 63.3% were females. As regards the cultural majority/minority, the largest proportion of participants had a Spanish cultural background (92.7%). In relation to the level of schooling, 4.3% had completed only primary education, 42.7% had completed up secondary school, and 53% were university students.

Measures

Sociodemographic questionnaire This questionnaire was used to collect sociodemographic information such as gender, age and school grade achievement. The following information about current behavior was also collected in the format of yes/no answers:

– *Detained/Arrested:* "Have you ever been detained or arrested?"
– *Mental illness:* "Do you have any serious mental health problem?"
– *Illicit drug use:* "Have you ever used illegal drugs?"
– *Alcohol use*: "Have you ever been drunk with alcoholic drinks?"

Adverse Childhood Experiences. The ACE study questionnaire (Felitti et al., 1998; Spanish version translated by some authors of this study) evaluates adverse childhood and adolescent experiences. All the questions about adverse childhood experiences pertain to the respondents' first 18 years of life, and concern three general areas: abuse, neglect and household dysfunction. In this study, the focus is only on the area of household dysfunction, namely in:

– *Household substance abuse (2 items).* Two questions asked whether during their childhood, the respondents had lived with a problem drinker or alcoholic or with anyone who used street drugs. An affirmative response to either of these questions indicated childhood exposure to substance abuse in the household.
– *Mental illness in household (2 items).* A "yes" response to the questions "Was anyone in your household mentally ill or depressed?" and "Did anyone in your household attempt to commit suicide?" defined this adverse childhood experience.
– *Incarcerated household members (1 item).* This experience was defined with the following question: "Did anyone in your household go to prison?"

Each adverse experience (ACE dimension) was dichotomized according to the original author's instructions (see Felitti et al., 1998; Pinto et al., 2014); if the subject scored one or more items in a category, it was considered present; otherwise, it was considered absent. Although it is not totally appropriate to measure factor invariance or internal consistency for items composing ACE dimensions, the questionnaire showed appropriate psychometric characteristics in previous studies (Holden et al., 2020; Pinto et al., 2014).

Deviant Behavior Scale (DBVS)

This self-reported frequency scale measures current deviant behavior which includes both illegal behavior (e.g., "Have you ever stolen something worth between 5 and 50 euros?") and rule-breaking behavior that is not illegal (e.g., "Have you ever lied to adults?"), (Sanches et al., 2016). The scale contains 19 items, answered in a two-point response style (Yes/No), regarding whether the participants have engaged in each of the 19 behaviors during the previous year. The total score for deviant behaviors is obtained by the sum of positive answers. Previous studies have shown good psychometric properties for this scale (Sanches et al., 2016).

Depression Anxiety and Stress Scale (DASS-21), (Daza et al., 2002)

This is a self-report designed to measure the three related negative emotional states of depression, anxiety and tension/stress. Respondents indicate the extent to which they have experienced each of the symptoms listed in the 21 items during the previous week (e.g. "I found it difficult to relax", "I felt that life was meaningless" or "I tended to over-react to situations") using a Likert scale ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much, or most of the time). The positive psychometric properties of the scale support its use for research (Daza et al., 2002).

Brief COPE Scale (Perczek et al., 2000)

This scale is designed to assess a broad range of coping responses among adults in different situations. It contains 28 items and is rated by the four-point Likert scale, ranging from "I haven't been doing this at all" (score one) to "I have been doing this a lot" (score four). Only one coping strategy was considered in this study: substance use, which consisted of two items: "I have been using alcohol or other drugs to make myself feel better" (item 4) and "I have been using alcohol or other drugs to help me get through it" (item 11). This scale has presented adequate psychometric characteristics in previous studies (Perczek et al., 2000).

Procedure

The data collected is part of the *International study of pro/antisocial behavior in young adults SOCIALDEVIANCE1820 Research Project (*for more details, see Basto-Pereira et al., 2020). The participants were invited to participate and recruited using convenience and snowball sampling methods, at high schools, schools for adults, universities, workplaces, and sports organizations. The questionnaires were administered collectively in the presence of the researchers, who explained the objective of the study

beforehand. The Ethics Committee of the authors´ University approved this study (reference number 22/2018). All participants provided their written informed consent, and they had total freedom to choose whether to participate in the study. To encourage participation, participants were entitled to enter in a voucher draw. Despite this, a refusal rate of 3.3% was obtained.

The established preferential criteria specified a maximum gender discrepancy ratio of 35% to 65%, at least 10% nonstudent participants, and 10% to 50% with more than 12 years of education. In addition, the exclusion criteria included presenting less than 4 years of schooling, not understanding the language, or having severe psychopathology, all of which might jeopardize participants' ability to understand and answer the questionnaire.

As there were few cases of young adults with household dysfunctions compared to the total sample obtained, after collecting the data it was decided to create a counterbalanced sample in the number of household dysfunctions, in order to subsequently analyze the predictive capacity of the variables considered. The variable "sum of ACE household dysfunction" was created for this reason. A first subsample of 210 young adults (of a total of 490) was then obtained, whose score was one or more in this variable. A second subsample, with similar gender percentages ($X^2 = 0.12$; $p = 0.98$) and a similar average age (t $= 1.65$; $p = 0.13$) as the first subsample, was then randomly selected. In this case, the subsample did not have any dysfunction scores in the household variable (N $= 210$), (comparison group), creating a total sample formed by 420 participants.

Data Analysis

Regression models (both linear and logistic) mainly focus on the individual contribution of each household dysfunction, whereas the second strategy, fuzzy qualitative comparative analysis, also carried out in this study, enables a search of different combinations leading to the same outcome (Ragin, 2014). This type of strategy is a novel method for analysing complex phenomena in social sciences. Given that there is an interdependence between conditions (household dysfunctions) (Dong et al., 2004), different dysfunctions combining in complex ways may also produce negative outcomes. This study therefore uses a complex method that permits a more nuanced discussion about the negative consequences of a combination of household dysfunctions, mainly as they take place in real life.

First, logistic regression for dichotomous variables (arrested/detained, mental health problems and drugs and alcohol consumption), and linear regressions for continuous variables (DVBS, coping strategies and DASS-21) were carried out to analyze how experience of dysfunctional household situations is related to all the variables mentioned above. In all the regression models, the reference group was the group which had suffered from the adverse experience (e.g., family members who use alcohol or drugs, who suffer from mental illness, or who are or have been incarcerated). In this way, the value of the odds ratio expresses the increased risk in the direction that is consistent with the theory.

Second, fuzzy-set qualitative comparative analysis (fsQCA) was performed. This type of analysis enables a conjunction of all logically possible combinations of conditions. QCA assumes that the influence of a particular attribute on a specific outcome depends on a combination of attributes, rather than on individual levels of attributes (de la Barrera et al., 2019). In fsQCA, consistency represents the extent to which a causal combination leads to an outcome whereas coverage represents how many cases with the outcome are represented by a particular causal condition. The difference between the coverage and consistency indices is that the former reflects the total proportion of positive cases explained, while the latter reflects the proportion of cases with a certain causal configuration that are positive. In the calculation of both indices, the numerator is given by the number of positive cases with the proposed causal configuration. But in the coverage index, the denominator is the total number of positive cases, while in the consistency index, the denominator is the total number of cases in the causal configuration (Elliott, 2013).

Calibration values for QCA were then calculated, missing data were deleted (n $= 35$ participants), and all the constructs (variables) were recalibrated. These were gender (male $= 0$; female $= 1$); household dysfunction ACEs (0 $=$ absence; 1 $=$ presence) and all variables collected from the sociodemographic questionnaire (detained/arrested, mental illness and drug and alcohol use). The values of age, deviant behavior, coping strategy involving substance use and the three constructs of DASS (stress, anxiety, and depression) were recalibrated considering three thresholds: 10% (low level or fully outside the set), 50% (intermediate level, neither inside nor outside the set), and 90% (high level or fully in the set). After the responses had been transformed, necessary and sufficient condition tests were used to evaluate the effect of adverse childhood experiences related to household dysfunction on deviant behavior, drugs and alcohol use and psychological distress. Necessary conditions are the causes that must always be present to produce a specific result, whereas sufficient conditions are those which can produce a certain result, but their presence is not necessary. The IBM SPSS Statistics 24 software package (IBM Corporation) was used to perform the logistic regression models, and QCA 3.0 software (Claude & Christopher, 2014) was used to perform QCA.

Results

The predictive power of the variables under study were analyzed using logistic and linear regressions, depending on the nature of the target variable (Tables 1 and 2). First, having an incarcerated family member significantly predicted having been arrested or detained (R^2 adjusted = .31, $p \leq 0.001$), but not the other indicators. Second, living with relatives that had used substances such as alcohol and illegal drugs was a predictor of drug consumption (R^2 adjusted = .07, $p \leq 0.05$), deviant behavior (R^2 adjusted = .13, $p \leq 0.05$) and substance use coping strategies (R^2 adjusted = .05, $p \leq 0.001$). Third, living with mentally ill family members predicted having more stress (R^2 adjusted = .05, $p \leq 0.001$), anxiety (R^2 adjusted = .05, $p \leq 0.001$), and depression problems (R^2 adjusted = .04, $p \leq 0.001$) in emerging adulthood. However, it was not a good predictor of having a serious mental health problem in emerging adulthood. Moreover, gender was a predictor of drug consumption (R^2 adjusted = .07, $p \leq 0.05$), deviant behavior (R^2 adjusted = .13, $p \leq 0.05$) and substance use coping strategies (R^2 adjusted = .05, $p \leq 0.001$), with males more likely to present those behaviors, and for stress problems (R^2 adjusted = .05, $p \leq 0.001$), with females to experience those problems.

A comparative qualitative analysis of fuzzy sets (QCA) was then performed. Based on the assumption that a model in QCA is informative when the consistency is around or above 0.75 (Eng & Woodside, 2012), the resulting models for each dimension are shown below (Table 3).

The various interactions accounted for 20% in the case of being arrested (overall consistency = 1; overall coverage = .20) and 7% for deviant behavior (overall consistency = .79; overall coverage = .07). In the former case, only one pathway appeared as a predictor of being arrested/detained. Accordingly, being a man, younger, not having witnessed any substance abuse at home and having a relative incarcerated were the variables that explained 20% of cases. In the latter case, the three most relevant pathways for predicting an increased incidence of deviant behavior were the interaction of being a man, having witnessed substance abuse by a family member at home, and having a relative with a mental illness. Another pathway included being a man and having a relative in prison. The third pathway contained being older, having observed family members using substances, not having relatives with any mental illness and having family members in prison.

For the prediction of drug and alcohol consumption, three combinations were observed which explained 8% (overall consistency = .90; overall coverage = .18) and 90% (overall consistency = .89; overall coverage = .90) of the cases respectively. For drug use, being a younger woman, having relatives with mental illness and substance abuse problems,

Table 1 Logistic regression for categorical variables

	Have been arrested				Drug use				Alcohol use				Serious mental health problems			
	B(SE)	Wald	OR	p	B(SE)	Wald	OR	p	B(SE)	Wald	OR	p	B(SE)	Wald	OR	p
Gender (1)	− .73 (1.01)	.51	.48	.474	− .53 (.21)	6.30	.59	.012*	− .27 (.32)	.73	.76	.392	.91 (.94)	.65	2.47	.421
Substance abuse household	− 1.61 (1.37)	1.39	.20	.239	.66 (.28)	5.68	1.93	.017*	.63 (.44)	2.01	1.87	.157	1.36 (1.14)	2.13	3.90	.145
Mental Illness household	− .82 (1.28)	.41	.44	.523	− .33 (.23)	1.96	.72	.161	− .56 (.31)	3.21	.57	.073	− .63 (8915.2)	.31	.53	.581
Incarcerated member household	4.54 (1.12)	13.35	93.24	.000*	1.09 (.60)	3.34	2.97	.068	− .79 (.63)	1.54	.45	.215	− 17.32 (.60)	.00	.00	.998
Constant	− 4.62 (.83)	30.35	.01	.000*	.29 (.17)	2.85	1.34	.09	2.16 (.27)	60.84	8.70	.000*	− 5.24 (1.08)	23.49	.00	.000*
NR^2			.312				.065				.029				.061	

B Regression coefficient, *SE* Standard error, *OR* Odds ratio, NR^2. *$p \leq .05$

Table 2 Linear regression for quantitative variables

	Deviant behavior				BCS substance use				DASS stress				DASS anxiety				DASS depression			
	B	SE	t	p	B	SE	t	p	B	SE	t	p	B	SE	t	p	B	SE	t	p
Gender (1)	−2.38	.33	−7.18	.000*	−.26	.07	−2.99	.003*	.21	.07	2.96	.003*	.09	.05	1.34	.181	.03	.06	.42	.676
Substance abuse household	1.18	.43	2.74	.006*	.44	.09	3.90	.000*	.16	.90	1.81	.071	.15	.06	1.76	.079	.09	.07	1.01	.313
Mental Illness household	−.16	.37	−.45	.656	.13	.11	1.38	.170	.25	.08	3.20	.001*	.28	.08	3.90	.000*	.31	.09	4.19	.000*
Incarcerated member household	1.01	.80	1.27	.205	−.25	.10	−1.20	.229	−.08	.18	−.45	.651	−.12	.07	−.79	.432	−.07	.07	−.41	.683
Constant	6.38	.28	22.64	.000*	.63	.07	8.72	.000*	.53	.05	9.53	.000*	.56	.05	10.34	.000*	.82	.05	13.91	.000*
R^2 Adjusted				.129				.053				.051				.045				.039

B Regression coefficient, *SE* Standard error, R^2 of Nagelkerke, *$p \leq .05$, *BCS* Brief Cope Scale, *DASS* Depression, Anxiety and Stress Scales

and not having family members incarcerated were the variables that explained 7% of the cases. The second pathway was the result of the interaction of being younger, not having a history of mental illness in the family and having a relative in prison. Finally, the combination of having relatives with substance abuse or incarceration and the absence of any household mental illness accounted for 4% of the cases.

Meanwhile, the prediction of alcohol consumption was the result of the interaction of not having either mentally ill or incarcerated relatives. Second, the combination of being younger and not having any relative in prison accounted for 54% of the cases. Finally, in the third pathway being a man and an absence of any mental illness in the household explained 30% of the cases.

In the same vein, for the prediction of maladaptive coping strategies through substance use, the three most important pathways explained 22% of the cases (overall consistency = .81; overall coverage = .22). These three pathways were as follows: the first was due to the combination of being older, not having witnessed substance abuse at home and having a relative with a mental illness. The second pathway contained being younger with an experience of relatives with mental illness and substance abuse. The third pathway was the result of the interaction of being a man, younger and having a relative with a substance abuse problem.

Finally, for psychological distress, Table 3 shows the different pathways that best predict the greatest presence of these variables. First, for the prediction of suffering from serious mental health problems, three paths or conditions explained 39% (overall consistency = .39; overall coverage = .90). The first was the result of the interaction of being a woman, not having relatives with substance abuse problems but having relatives with a mental illness and incarceration. The second pathway contained being a man and being older, not having family member with substance abuse, and having incarcerated family members. In the third case, being older, not having relatives with substance abuse problems but having relatives who were incarcerated or with mental illness explained 10% of cases.

The prediction of a higher presence of stress explained the 12% of the cases (overall coverage = .12, overall consistency = .84). The first pathway was explained by the joint combination of being a woman and younger, having witnessed family members with substance problems at home, and not having relatives with mental problems or incarcerated. The combination of being female, older, with relatives with substance abuse problems and mental illness, and not having family members incarcerated were those who explained the second pathway, accounting for 3% of the cases. The third pathway was the result of the interaction of being male, younger, having experienced substance abuse by a member of the household, and having relatives with mental illness.

Table 3 Summary of the main sufficient conditions for the intermediate solution of the study variables for Fuzzy Analysis

	Arrested (Freq. cutoff:1; Consistency cutoff:1)	Drug use (Consistency cutoff:.82)			Alcohol use (Consistency cutoff:.82)			Serious mental health problems (Consistency cutoff:.83)			DBV (Consistency cutoff:.84)			BCS substance use (Consistency cutoff:.82)			DASS stress (Consistency cutoff:.81)			DASS anxiety (Consistency cutoff:.81)			DASS depression (Consistency cutoff:.83)		
	1	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Male	●	○					●	○			●	●				●	○	○	●	○	●	●	○	○	○
Older	○		○			○		●	●	●				●	○		○	●	○	○	●	●	○	○	
Substance abuse household	○	●		●	○		○	○	○	○				○	●	●	●	●	●	●	●	●	●	●	●
Mental Illness household		●	○		○		○	●		●	●		○	●	●			●	●	●	●	●	●		○
Incarcerated member household	●	○	●	●	○	○		●	●	●		●	●				○	○	●	○	●	●	○	●	●
Raw coverage	.20	.07	.07	.04	.72	.54	.09	.20	.10	.19	.05	.03	.01	.11	.05	.04	.04	.03	.02	.05	.01	.01	.05	.01	.01
Unique coverage	.20	.03	.01	.01	.14	.03	.01	0	0	.01	.03	.02	.01	.09	.03	.02	.04	.03	.02	.05	.01	.01	.05	.01	.01
Consistency	1	.81	1	1	.89	.89	.90	.99	.99	.99	.77	.81	.93	.84	.86	.88	.83	.81	.94	.81	.81	.81	.85	.83	.98
Overall solution consistency	**1**	**.90**			**.89**			**.90**			**.79**			**.81**			**.84**			**.81**			**.86**		
Overall solution coverage	**.20**	**.18**			**.90**			**.39**			**.07**			**.22**			**.12**			**.07**			**.08**		

DBV Deviant Behavior, *BCS* Brief Cope Scale, *DASS* Depression Anxiety Stress Scales, Expected vector (0: absent; 1: present); Expected vector for have been arrested: 1.0.1.1.1; Expected vector for drugs use: 1.0.1.1.1; Expected vector for alcohol use: 1.0.1.1.1; Expected vector for mental illness: 0.1.1.1.1; Expected vector for DVB: 1.0.1.1.1; Expected vector for BCS Substance Use: 1.0.1.1.1; Expected vector for DASS Stress: 0.1.1.1.1; Expected vector for DASS Anxiety: 0.1.1.1.1; Expected vector for DASS Depression: 0.1.1.1.1

Meanwhile, three paths explained the prediction of suffering levels of anxiety increased by 7% (overall coverage = .07; overall consistency = .81). These routes were as follows: being younger, having relatives with substance abuse problems and mental problems, and not having any incarcerated family member; being female and older with a family member with substance abuse problems, mental illness and who is incarcerated; and finally, the combination of being male and older, with relatives who are incarcerated or with substance abuse problems and not having family members with a mental illness.

Finally, the presence of high levels of depression was observed in three main interactions that explained 8% of the cases (overall coverage = .08; overall consistency = .86). The first pathway accounted for 5% of the cases and was the result of the interaction of being younger, having relatives with substance abuse or mental illness and not having an incarcerated family member. Second, being female and younger, and having witnessed substance abuse, mental illness and having an incarcerated family member explained 1% of the total cases. The third pathway was the result of being younger, not having relatives with either substance abuse problems or mental illness, and not having an incarcerated family member.

Discussion

The main objective of this study was to analyze the existence of an intergenerational transmission or continuity of household dysfunctions in Spanish emerging adults. The first hypothesis posited that substance abuse in the household would be related to a higher level of substance use and the use of coping strategies based on substance use in emerging adulthood. This was fully supported by the results.

Household substance abuse predicted drugs consumption (but not alcohol consumption), supporting the intergenerational transmission found in previous studies in mainly English-speaking countries (Kerr et al., 2020; Langevin et al., 2019). In addition, substance abuse in the household also predicted deviant behavior in later development, as reported in other studies (Edwards et al., 2001; Muniz et al., 2019). The original contributions of this study mainly refer to two aspects: first, although the intergenerational transmission for drug use is quite clear, it is not as clear for alcohol use patterns. This may indicate that a distinction should be made between the two substances when carrying out research on these negative outcomes. Drug use seems to be more subject to intergenerational transmission and therefore, to social learning processes. In fact, drugs use is a more extreme strategy for coping with adverse situations than alcohol. Society in general (and Spanish society in particular) is far less tolerant of drug use than alcohol use (Spanish Ministry of Health,

Consumption and Social Welfare, 2017). While purchasing and consuming alcohol is legal for adults, the use of illegal drugs is systematically punished in all circumstances. Future studies should determine whether this distinction between the two substances in intergenerational transmission is peculiar to Spanish society, or whether on the contrary it is prevalent in any kind of society.

Second, this study also found that living as a child with an alcoholic or with someone who used street drugs was significantly related to the substance use as coping strategies in emerging adulthood. Not only do individuals follow the same behavioral pattern that they witness at home (drug abuse), but they also integrate the justification of these patterns through these maladaptive coping strategies in daily life. This subscale of substance use as a coping strategy is one of the strongest subscales in the confirmatory factor analysis of this questionnaire, with no cultural differences observed (Mohanraj et al., 2015).

The second hypothesis, having incarcerated household members in childhood would be linked to a higher rate of detentions/arrests, and to a higher presence of deviant behaviors in emerging adulthood, was partially supported by the results. Having incarcerated household members predicted a higher rate of detentions and arrests, as found in previous research (Augustyn et al., 2019; Besemer et al., 2017a), but it did not predict deviant behaviors. Nevertheless, as mention below in the discussion of the results from fuzzy analyses, the combination of incarcerated household members, substance abuse household and male gender will be sufficient conditions for the appearance of deviant behaviors.

The third hypothesis was only partially supported by the results, i.e., mental illness in the household was not associated with a higher presence of self-reported mental problems, but it predicted various self-reported psychological distress indicators in emerging adulthood (depression, anxiety and stress). As observed in other studies, participants experiencing mental illness in their household in childhood had a higher risk of subsequently internalizing problems (Muniz et al., 2019). The single self-reported item included in this study for assessing mental health problems: "Do you have any serious mental health problem?" was possibly not a valid indicator for capturing the subtle nuances of the situation. Instead, the validated questionnaire DASS-21 was able to detect greater signs of psychological distress in emerging adults living with household members who had mental problems in their childhood or adolescence.

Focusing on the data analyses carried out in this study, both methodologies were consistent, and they both supported the presence of intergenerational transmission or continuity in the household dysfunctions analyzed. At the same time, the absence of a specific intergenerational transmission for alcohol use patterns consistently appears in both types of analyses.

However, the most outstanding contribution of fuzzy analyzes involves the possibility of analyzing different combinations of household dysfunctions leading to the same outcome (Ragin, 2014). Given that household dysfunctions always occur in combination, and that adverse experiences have a well-known cumulative effect, the combination of these adversities presents a more realistic picture of the situation. There were two main combinations of household dysfunctions: the first was more closely related to externalizing outcomes, and the second was more closely linked to internalizing negative outcomes. First, the combination of substance abuse and incarcerated household members were the main conditions for the occurrence of drug use and deviant behaviors. Given the close association between substance use and criminal activity (Esbec & Echeburúa, 2016), it seems logical to expect this combination of household dysfunctions to provide a more complete view of its effects on the next generation. In other words, participants living with household members with substance abuse and incarceration problems were more likely to repeat maladaptive externalizing patterns related to these dysfunctions (drug use and deviant behavior) in a later stage of their lives.

The second main combination of household dysfunctions included the three dysfunctions analyzed in this study. Living with household members with mental illness, substance abuse and incarceration problems were the sufficient conditions for the presence of different indicators of psychological distress (namely depression and anxiety) in emerging adulthood. In this case, caution must be exercised when considering whether this result supports intergenerational transmission of mental illness in the household, or of it is also a general manifestation of distress due to the cumulative presence of three adverse experiences in the household. Some authors suggest that the relationship between adverse childhood experiences and chronicity of depression is not simply due to continuity (Liu, 2017). In any case, the relationship between adverse childhood experiences and depression appears to be a long-term relationship and is even observed in people in their sixties (Ege et al., 2015).

However, even using this type of fuzzy analyses, which enhance the possibility of combinations to achieve the same result, the "incarcerated member" household dysfunction did not present any combination with other dysfunctions to be a sufficient condition for the occurrence of detentions and arrests in the participant's life. In other words, this household dysfunction presented a more unambiguous and specific intergenerational transmission process in relation to being detained/arrested in emerging adulthood. Other studies have shown significant independent effects of this household dysfunction in comparison to other household dysfunctions (Campbell et al., 2016). Nevertheless, this specific characteristic of incarceration of a household member warrants further exploration in the future.

Limitations

Finally, this study is not without some limitations. The use of a nonprobability sample is a major limitation that might jeopardize the generalizability of results. Nevertheless, the principal characteristics of the population (gender, level of schooling, and so on) should be proportionally present, due to the established preferential criteria stated before in the Procedure.

Although this study incorporates a large number and different types of measures, only household dysfunctions with a direct correspondence with assessed indicators were included in this study. As a result, no exposure to domestic violence or parental separation (the other household dysfunctions in the questionnaire) were included in this research. In addition, self-reporting (either by individual items or validated questionnaires), was the main method used to collect the information. Further studies including the whole range of household dysfunctions, the other direct adverse childhood experiences, and objective measures of negative outcomes (medical reports, official criminal records) would be very useful. Moreover, this study did not consider specific information about the nature of the participants' household dysfunctions in terms of their severity, frequency, timing, or agent (the mother, the father, or both). Previous studies have shown that certain variables, such as severity of the maltreatment (Berzenski et al., 2014), or the timing (Thornberry & Henry, 2013) may be linked to higher rates of intergenerational transmission. Future studies should try to incorporate this information, which will surely contribute to an understanding of intergenerational transmission or continuity.

Implications

Despite these limitations, the results from this study suggest that one of the most long-term consequences of negative experiences in childhood and adolescence, intergenerational transmission or continuity of these experiences, exists even for indirect victimizations such as household dysfunctions. Given that this transmission may affect until three generations, inevitably fostering family dependence on child protection services, urgent prevention strategies should be implemented. Priority prevention strategies should be aimed at breaking the intergenerational transmission, focusing first on direct and univocal processes, mainly expressed by externalizing behaviors (individuals with incarcerated household members and their higher probability of being detained or arrested), but also on the rest of cumulative processes of transmission. Professionals may be aware of the potential relation of cumulative household dysfunctions with later internalizing problems,

mainly depression and anxiety. In this way, professionals could prevent these household experiences from being translated to individual maladjusted patterns in emerging adulthood. One outstanding tool to detect these adverse experiences in the household may be early home visitation, which has been proved to be highly effective on reducing their prevalence (Bilukha et al., 2005; Felitti et al., 1998). In any case, networking and specialized training of all the agents involved in identifying ACEs and maladjusted strategies (schools, public health services, justice system), would be highly advisable.

Conclusion

All that said, the results of this study support the intergenerational transmission or continuity of household dysfunctions among Spanish emerging adults. Moreover, while some household dysfunctions presented a more univocal and specific intergenerational transmission process (e.g., individuals with incarcerated household members presented a higher probability of being detained or arrested), others household problems were mainly present in combination when yielding negative results (substance abuse household and mental illness household). These results may therefore illustrate possible pathways of transmission (specific or cumulative) after experiencing early household dysfunctions and may help professionals to establish clearer and tailored relationships between adverse childhood experiences and later adjustment. The cumulative pathway may be especially crucial as participants with more ACEs are less likely to find interventions helpful and more likely to quit prematurely (DeHart & Altshuler, 2009; Karatekin, 2019).

Although these results may present a negative scenario in terms of the continuity of household dysfunctions, the emerging adults analyzed in this study are still developing and building their own life trajectories (Arnett, 2000). They therefore still have time to break this pattern and adopt new and adaptive processes and strategies. Future studies should include a follow-up period in later developmental stages to analyze continuity versus desistance in these trajectories during adulthood.

Declarations

References

Allem, J. P., Soto, D. W., Baezconde-Garbanati, L., & Unger, J. B. (2015). Adverse childhood experiences and substance use among Hispanic emerging adults in Southern California. *Addictive Behaviors, 50*, 199–204. https://doi.org/10.1016/j.addbeh.2015.06.038

Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C. H., Perry, B. D., Dube, R., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood. *European Archives of Psychiatry and Clinical Neuroscience, 256*(3), 174–186. https://doi.org/10.1007/s00406-005-0624-4

Anderson, C. A., & Hammen, C. L. (1993). Psychosocial outcomes of children of unipolar depressed, bipolar, medically ill, and normal women: a longitudinal study. *Journal of Consulting and Clinical Psychology, 61*(3), 448–454. https://doi.org/10.1037/0022-006X.61.3.448

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480. https://doi.org/10.1037/0003-066X.55.5.469

Augustyn, M. B., Loughran, T., Larroulet, P., Fulco, C. J., & Henry, K. L. (2020). Intergenerational marijuana use: A life course examination of the relationship between parental trajectories of marijuana use and the onset of marijuana use by offspring. *Psychology of Addictive Behaviors, 34*, 818–829. https://doi.org/10.1037/adb0000530

Augustyn, M. B., Ward, J. T., Krohn, M. D., & Dong, B. (2019). Criminal justice contact across generations: Assessing the intergenerational labeling hypothesis. *Journal of Developmental and Life-Course Criminology, 5*(2), 137–175. https://doi.org/10.1007/s40865-019-00118-3

Basto-Pereira, M., Miranda, A., Ribeiro, S., & Maia, A. (2016). Growing up with adversity: From juvenile justice involvement to criminal persistence and psychosocial problems in young adulthood. *Child Abuse & Neglect, 62*, 63–75. https://doi.org/10.1016/j.chiabu.2016.10.011

Basto-Pereira, M., Queiroz-Garcia, I., Maciel, L., Leal, I., & Gouveia-Pereira, M. (2020). An international study of pro/antisocial behavior in young adults. *Cross-Cultural Research, 54*(1), 92–105. https://doi.org/10.1177/1069397119850741

Bellis, M. A., Hughes, K., Ford, K., Rodriguez, G. R., Sethi, D., & Passmore, J. (2019). Life course health consequences and associated annual costs of adverse childhood experiences across Europe and North America: A systematic review and meta-analysis. *The Lancet Public Health, 4*(10), e517–e528. https://doi.org/10.1016/S2468-2667(19)30145-8

Berlin, L. J., Appleyard, K., & Dodge, K. A. (2011). Intergenerational continuity in child maltreatment: Mediating mechanisms and

implications for prevention. *Child Development, 82*(1), 162–176. https://doi.org/10.1111/j.1467-8624.2010.01547.x

Berzenski, S. R., & Yates, T. M. (2011). Classes and consequences of multiple maltreatment: A person-centered analysis. *Child Maltreatment, 16*(4), 250–261. https://doi.org/10.1177/1077559511 428353

Berzenski, S. R., Yates, T. M., & Egeland, B. (2014). A multidimensional view of continuity in intergenerational transmission of child maltreatment. In J. E. Korbin & R. D. Krugman (Eds.), *Handbook of child maltreatment.* (pp. 115–129). Springer.

Besemer, S., Ahmad, S. I., Hinshaw, S. P., & Farrington, D. P. (2017a). A systematic review and meta-analysis of the intergenerational transmission of criminal behavior. *Aggression and Violent Behavior, 37*, 161–178. https://doi.org/10.1016/j.avb.2017.10.004

Besemer, S., Farrington, D. P., & Bijleveld, C. C. J. H. (2017b). Labeling and intergenerational transmission of crime: The interaction between criminal justice intervention and a convicted parent. *PLoS ONE*, *12*(3), e017241. https://doi.org/10.1371/journal.pone. 0172419

Bevilacqua, L., Kelly, Y., Heilmann, A., Priest, N., & Lacey, R. E. (2021). Adverse childhood experiences and trajectories of internalizing, externalizing, and prosocial behaviors from childhood to adolescence. *Child Abuse & Neglect*. https://doi.org/10.1016/j. chiabu.2020.104890

Bilukha, O., Hahn, R. A., Crosby, A., Fullilove, M. T., Liberman, A., Moscicki, E., & Briss, P. A. (2005). The effectiveness of early childhood home visitation in preventing violence: A systematic review. *American Journal of Preventive Medicine, 28*(2), 11–39. https://doi.org/10.1016/j.amepre.2004.10.004

Brown, D. W., Anda, R. F., Tiemeier, H., Felitti, V. J., Edwards, V. J., Croft, J. B., & Giles, W. H. (2009). Adverse childhood experiences and the risk of premature mortality. *American Journal of Preventive Medicine, 37*(5), 389–396. https://doi.org/10.1016/j. amepre.2009.06.021

Campbell, J. A., Walker, R. J., & Egede, L. E. (2016). Associations between adverse childhood experiences, high-risk behaviors, and morbidity in adulthood. *American Journal of Preventive Medicine, 50*(3), 344–352. https://doi.org/10.1016/j.amepre.2015.07. 022

Capaldi, D., Tiberio, S., Pears, K., Kerr, D., & Owen, L. (2019). Intergenerational associations in physical maltreatment: Examination of mediation by delinquency and substance use, and moderated mediation by anger. *Development and Psychopathology, 31*(1), 73–82. https://doi.org/10.1017/S0954579418001529

Choi, K. W., Houts, R., Arseneault, L., Pariante, C., Sikkema, K. J., & Moffitt, T. E. (2019). Maternal depression in the intergenerational transmission of childhood maltreatment and its sequelae: Testing postpartum effects in a longitudinal birth cohort. *Development and Psychopathology, 31*(1), 143–156. https://doi.org/10.1017/ S0954579418000032

Claud, R. & Christopher. R. (2014). QCA *[Computer Programme]*. University of Houston-Downtown.

Colman, I., Kingsbury, M., Garad, Y., Zeng, Y., Naicker, K., Patten, S., & Thompson, A. H. (2016). Consistency in adult reporting of adverse childhood experiences. *Psychological Medicine, 46*(3), 543. https://doi.org/10.1017/S0033291715002032

Cronholm, P. F., Forke, C. M., Wade, R., Bair-Merritt, M. H., Davis, M., Harkins-Schwarz, M., & Fein, J. A. (2015). Adverse childhood experiences: Expanding the concept of adversity. *American Journal of Preventive Medicine, 49*(3), 354–361. https://doi.org/ 10.1016/j.amepre.2015.02.001

Daza, P., Novy, D. M., Stanley, M. A., & Averill, P. (2002). The depression anxiety stress scale-21: Spanish translation and validation with a Hispanic sample. *Journal of Psychopathology and Behavioral Assessment, 24*(3), 195–205

DeHart, D. D., & Altshuler, S. J. (2009). Violence exposure among children of incarcerated mothers. *Child and Adolescent Social Work Journal, 26*(5), 467–479

De la Barrera, U., Villanueva, L., & Prado-Gascó, V. (2019). Emotional and personality predictors that influence the appearance of somatic complaints in children and adults. *Psicothema, 31*(4), 407–413. https://doi.org/10.7334/psicothema2019.69

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., & Giles, W. H. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect, 28*(7), 771–784. https://doi.org/ 10.1016/j.chiabu.2004.01.008

Dube, S. R., Fairweather, D., Pearson, W. S., Felitti, V. J., Anda, R. F., & Croft, J. B. (2009). Cumulative childhood stress and autoimmune diseases in adults. *Psychosomatic Medicine, 71*(2), 243. https://doi.org/10.1097/PSY.0b013e3181907888

Edwards, E., Leonard, K. E., & Eiden, R. D. (2001). Temperament and behavioral problems among infants in alcoholic families. *Infant Mental Health Journal, 22*(3), 374–392. https://doi.org/10.1002/ imhj.1007

Ege, M. A., Messias, E., Thapa, P. B., & Krain, L. P. (2015). Adverse childhood experiences and geriatric depression: Results from the 2010 BRFSS. *The American Journal of Geriatric Psychiatry, 23*(1), 110–114. https://doi.org/10.1016/j.jagp.2014.08.014

Elliott, T. (2013). *Fuzzy set qualitative comparative analysis. Research Notes: Statistics Group.* https://www.socsci.uci.edu/~sgsa/docs/ fsQCA_thomas_elliot.pdf.

Eng, S., & Woodside, A. G. (2012). Configural analysis of the drinking man: Fuzzy-set qualitative comparative analyses. *Addictive Behaviors, 37*(4), 541–543. https://doi.org/10.1016/j.addbeh.2011. 11.034

Esbec, E., & Echeburúa, E. (2016). Abuso de drogas y delincuencia: consideraciones para una valoración forense integral [Drug abuse and crime: considerations for a comprehensive forensic assessment]. *Adicciones, 28*(1), 48–56. https://doi.org/10.4324/97802 03077146

Felitti, V. J., & Anda, R. F. (2010). The relationship of adverse childhood experiences to adult health, well-being, social function, and healthcare. In R. Lanius, E. Vermetten, & C. Pain (Eds.), *The impact of early life trauma on health and disease: The hidden epidemic (chapter 8).* (pp. 77–87). Cambridge University Press.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Forster, M., Grigsby, T. J., Rogers, C. J., & Benjamin, S. M. (2018). The relationship between family-based adverse childhood experiences and substance use behaviors among a diverse sample of college students. *Addictive Behaviors, 76*, 298–304. https://doi. org/10.1016/j.addbeh.2017.08.037

Fuhrmann, D., Knoll, L. J., & Blakemore, S. J. (2015). Adolescence as a sensitive period of brain development. *Trends in Cognitive Sciences, 19*(10), 558–566. https://doi.org/10.1016/j.tics.2015.07.008

Geller, A., Garfinkel, I., Cooper, C. E., & Mincy, R. B. (2009). Parental incarceration and child well-being: implications for urban families. *Social Science Quarterly, 90*(5), 1186–1202. https://doi.org/ 10.1111/j.1540-6237.2009.00653.x

Gomis-Pomares, A., & Villanueva, L. (2020). The effect of adverse childhood experiences on deviant and altruistic behavior during emerging adulthood. *Psicothema, 32*(1), 33–39. https://doi.org/ 10.7334/psicothema2019.142

Holden, G. W., Gower, T., & Chmielewski, M. (2020). Methodological considerations in ACEs research. In G. J. G. Gordon & T. O. Aff (Eds.), *Adverse childhood experiences: Using evidence to advance*

research, practice, policy, and prevention. (pp. 161–182). New York: Academic Press.

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health, 2*(8), e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

Kaufman, J., & Zigler, E. (1989). The intergenerational transmission of child abuse. In D. Cichetti & V. Carlson (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect.* (pp. 129–150). Cambridge University Press.

Karatekin, C. (2019). Adverse childhood experiences (ACEs) and help-seeking for health-related interventions in young adults. *The Journal of Psychology, 153*(1), 6–22

Kerr, D. C., Tiberio, S. S., Capaldi, D. M., & Owen, L. D. (2020). Intergenerational congruence in adolescent onset of alcohol, tobacco, and marijuana use. *Psychology of Addictive Behaviors*, *34*(8), 839–851. https://doi.org/10.1037/adb0000546

Lacey, R. E., Howe, L. D., Kelly-Irving, M., Bartley, M., & Kelly, Y. (2020). The clustering of adverse childhood experiences in the Avon Longitudinal Study of Parents and Children: Are gender and poverty important? *Journal of Interpersonal Violence.* https://doi.org/10.1177/0886260520935096

Langevin, R., Marshall, C., & Kingsland, E. (2019). Intergenerational cycles of maltreatment: A scoping review of psychosocial risk and protective factors. *Trauma, Violence, & Abuse.* https://doi.org/10.1177/1524838019870917

Liming, K. W., & Grube, W. A. (2018). Wellbeing outcomes for children exposed to multiple adverse experiences in early childhood: A systematic review. *Child and Adolescent Social Work Journal, 35*(4), 317–335. https://doi.org/10.1007/s10560-018-0532-x

Liu, R. T. (2017). Childhood adversities and depression in adulthood: Current findings and future directions. *Clinical Psychology: Science and Practice, 24*(2), 140–153. https://doi.org/10.1111/cpsp.12190

Loxton, D., Townsend, N., Dolja-Gore, X., Forder, P., & Coles, J. (2019). Adverse childhood experiences and healthcare costs in adult life. *Journal of Child Sexual Abuse, 28*(5), 511–525. https://doi.org/10.1080/10538712.2018.1523814

Madigan, S., Cyr, C., Eirich, R., Fearon, R. P., Ly, A., Rash, C., Pool, J. C., & Alink, L. R. (2019). Testing the cycle of maltreatment hypothesis: Meta-analytic evidence of the intergenerational transmission of child maltreatment. *Development and Psychopathology, 31*(1), 23–51. https://doi.org/10.1017/S0954579418001700

McAdams, D. P., Bauer, J. J., Sakaeda, A. R., Anyidoho, N. A., Machado, M. A., Magrino-Failla, K., & Pals, J. L. (2006). Continuity and change in the life story: A longitudinal study of autobiographical memories in emerging adulthood. *Journal of Personality, 74*(5), 1371–1400. https://doi.org/10.1111/j.1467-6494.2006.00412.x

Mersky, J. P., & Janczewski, C. E. (2018). Racial and ethnic differences in the prevalence of adverse childhood experiences: Findings from a low-income sample of US women. *Child Abuse & Neglect, 76*, 480–487. https://doi.org/10.1016/j.chiabu.2017.12.012

Mohanraj, R., Jeyaseelan, V., Kumar, S., Mani, T., Rao, D., Murray, K. R., & Manhart, L. E. (2015). Cultural adaptation of the brief COPE for persons living with HIV/AIDS in southern India. *AIDS and Behavior, 19*(2), 341–351. https://doi.org/10.1007/s10461-014-0872-2

Muniz, C. N., Fox, B., Miley, L. N., DeLisi, M., Cigarran, G. P., & Birnbaum, A. (2019). The effects of adverse childhood experiences on internalizing versus externalizing outcomes. *Criminal Justice and Behavior, 46*(4), 568–589. https://doi.org/10.1177/0093854819826213

Murray, J., & Farrington, D. P. (2005). Parental imprisonment: effects on boys' antisocial behaviour and delinquency through the life-course. *Journal of Child Psychology and Psychiatry, 46*(12), 1269–1278. https://doi.org/10.1111/j.1469-7610.2005.01433.x

Neppl, T. K., Diggs, O. N., & Cleveland, M. J. (2020). The intergenerational transmission of harsh parenting, substance use, and emotional distress: Impact on the third-generation child. *Psychology of Addictive Behaviors, 34*, 852–863. https://doi.org/10.1037/adb0000551

Pears, K. C., & Capaldi, D. M. (2001). Intergenerational transmission of abuse: A two-generational prospective study of an at-risk sample. *Child Abuse & Neglect, 25*(11), 1439–1461. https://doi.org/10.1016/S0145-2134(01)00286-1

Perczek, R., Carver, C. S., Price, A. A., & Pozo-Kaderman, C. (2000). Coping, mood, and aspects of personality in Spanish translation and evidence of convergence with English versions. *Journal of Personality Assessment, 74*, 63–87. https://doi.org/10.1207/S15327752JPA740105

Pinto, R., Correia, L., & Maia, Â. C. (2014). Assessing the reliability of retrospective reports of adverse childhood experiences among adolescents with documented childhood maltreatment. *Journal of Family Violence, 29*, 431–438. https://doi.org/10.1007/s10896-014-9602-9

Ragin, C. C. (2014). *The comparative method: Moving beyond qualitative and quantitative strategies*. University of California Press.

Sanches, C., Gouveia-Pereira, M., Marôco, J., Gomes, H., & Roncon, F. (2016). Deviant behavior variety scale: Development and validation with a sample of Portuguese adolescents. *Psicologia: Reflexão e Crítica*, *29*, 31. https://doi.org/10.1186/s41155-016-0035-7

Schneider, W. (2014). *Memory development from early childhood through emerging adulthood*. Springer.

Spanish Ministry of Health, Consumption and Social Welfare. (2017). *Encuesta sobre alcohol y otras drogas en España (EDADES, 1995–2017) [Survey about alcohol and other drugs in Spain (EDADES, 1995–2017)]*. Secretaría de Estado de Servicios Sociales.

Thornberry, T. P., & Henry, K. L. (2013). Intergenerational continuity in maltreatment. *Journal of Abnormal Child Psychology, 41*, 555–569. https://doi.org/10.1007/s10802-012-9697-5

Thornberry, T. P., Freeman-Gallant, A., Lizotte, A. J., Krohn, M. D., & Smith, C. A. (2003). Linked lives: the intergenerational transmission of antisocial behavior. *Journal of Abnormal Child Psychology, 31*, 171–184. https://doi.org/10.1023/a:1022574208366

Thornberry, T. P., Knight, K. E., & Lovegrove, P. J. (2012). Does maltreatment beget maltreatment? A systematic review of the intergenerational literature. *Trauma, Violence, & Abuse, 13*(3), 135–152. https://doi.org/10.1177/1524838012447697

Tiberio, S. S., Kerr, D. C. R., Bailey, J. A., Henry, K. L., & Capaldi, D. M. (2020). Intergenerational associations in onset of cannabis use during adolescence: A data synthesis approach. *Psychology of Addictive Behaviors, 34*, 877–889. https://doi.org/10.1037/adb0000625

van Dijk, M., Kleemans, E., & Eichelsheim, V. (2019). Children of organized crime offenders: Like father, like child? An explorative and qualitative study into mechanisms of intergenerational (dis) continuity in organized crime families. *European Journal on Criminal Policy and Research, 25*(4), 345–363. https://doi.org/10.1007/s10610-018-9381-6

Warmingham, J. M., Rogosch, F. A., & Cicchetti, D. (2020). Intergenerational maltreatment and child emotion dysregulation. *Child Abuse & Neglect, 102*, 104–377. https://doi.org/10.1016/j.chiabu.2020.104377

Widom, C. S., Czaja, S. J., & DuMont, K. A. (2015). Intergenerational transmission of child abuse and neglect: Real or detection bias?

Science, 347(6229), 1480–1485. https://doi.org/10.1126/science.1259917

Wildeman, C. (2020). The intergenerational transmission of criminal justice contact. *Annual Review of Criminology, 3*, 217–244. https://doi.org/10.1146/annurev-criminol-011419-041519