



A Multilevel Meta-Analysis of Dynamic Risk Factors for Emerging Adults who Abuse their Parents

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Abstract

Purpose Even though five to 11% of child-to-parent abuse (CPA) perpetrators are emerging adults (age 18–23 years), relevant risk factors underlying CPA in this group are understudied.

Method A multilevel meta-analysis was performed on nine studies (450 effect sizes, $N = 1,043$), comprising eight static (e.g., age and gender of perpetrator) and dynamic (e.g., substance abuse, financial problems) risk factors.

Results Emerging adults who fell victim of domestic violence, or had antisocial cognitions, authority problems, or empathy problems displayed CPA more often. Moderator analyses revealed that the relation between gender of perpetrator and CPA was moderated by gender of victim ($p = .033$) and CPA type ($p = .021$). Gender of victim ($p < .001$) also moderated the relationship between single-parent household and CPA. Finally, the relation between witness to DV and CPA was moderated by age ($p = .007$).

Conclusions This was the first multilevel meta-analysis focusing exclusively on CPA displayed by emerging adults. The results can be used as a basis for further research into relevant risk factors for CPA in this group and hopefully contribute to the development of health care interventions to reduce chances of CPA occurring.

Keywords Child-to-parent abuse · CPA · Risk factors · Emerging adults · Meta-analysis

Research has predominantly focused on child-to-parent abuse (CPA) in juveniles and adolescents. Less attention has been paid to exclusively emerging adults as CPA perpetrators. CPA is defined as any abusive behavior of physical, verbal/psychological, financial and/or sexual nature, aiming to assert control or gain power, by children towards their parents, while still living at home (Cancino-Padilla et al., 2020; Holt, 2016; Ibabe, 2020). Emerging adulthood refers to the period from the late teens to the early twenties (Arnett, 2000), characterized in this study as 18- to 23-year-olds. Literature on CPA shows that emerging adults living at home

are accountable for five to 11% of all CPA cases, mostly in judicial context (Ibabe, 2020; Simmons et al., 2018; Vink et al., 2014). It proves challenging to get a clear picture of the actual CPA prevalence rates because most parents are reluctant to disclose the abuse by their children (Contreras & Cano, 2014). Parents tend to feel ashamed, are afraid to be blamed (Coogan & Lauster, 2020; Kuay et al., 2017), or fear an increase of abusive behavior by their child when speaking up (Crichton-Hill et al., 2004; DeLong & Kahn, 2014; Ibabe, 2020; Lyons et al., 2015; Peck et al., 2021; Yeung et al., 2012). Parents might therefore refrain from seeking help. In addition, emerging adults might not feel responsible for or receptive to the needs of people around them (Goodman et al., 2015). As a result, they may have a lower perceived need for change (D. Eisenberg et al., 2009) and be less willing to engage in mental health treatment. However, without intervention, chances increase of CPA being transferred into dating violence, domestic violence (DV), or elderly abuse (Cancino-Padilla et al., 2020; Crichton-Hill et al., 2004; Herrenkohl et al., 2022; McManus et al., 2017); a phenomenon called “the intergenerational cycle of domestic violence” (Herrenkohl et al., 2022; Holt, 2016; Izaguirre & Calvete,

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2017). As this cycle can have far-reaching consequences, relevant CPA risk factors need to be identified (Ibabe, 2020; Simmons et al., 2019). Knowledge about which static and dynamic risk factors are predictive of CPA is key in developing targeted interventions. Static risk factors mostly consist of historic, fixed elements like age and gender, whereas dynamic risk factors are generally characteristics that can be influenced, such as antisocial cognitions and communication problems (Eisenberg et al., 2019). Another way of categorizing risk factors is to divide them in individual factors (e.g., substance abuse, empathy problems) and contextual factors (e.g., household formation, parenting style, family socioeconomic status) (Ibabe, 2020; Simmons et al., 2018). In the present multilevel meta-analysis we distinguish between individual and contextual static risk factors, and individual and contextual dynamic risk factors as risk factors for CPA.

Static Risk Factors

Research on individual static risk factors for CPA in adolescent and emerging adult samples, such as the review of Simmons et al. (2018), demonstrated that relevant factors such as being male, young, with a history of antisocial behavior, and low academic achievement, can enhance the risk of CPA. Although findings are ambiguous, overall, a larger proportion of male perpetrators was found (Ibabe, 2020; McManus et al., 2017; Raji et al., 2019; Simmons et al., 2018; Vink et al., 2014). In comparing type of CPA across gender subgroups, sons were more likely to act physically aggressive towards fathers (Loinaz & Sousa, 2019; Simmons et al., 2020; Suárez-Relinque et al., 2019), while daughters were mainly verbally and psychologically aggressive towards their mothers (e.g., Björkqvist, 2017; Ilabaca Baeza & Gaete Fiscella, 2021; Lyons et al., 2015; Rico et al., 2017).

With regard to the contextual static risk factors, living in a single-parent household increased the risk of falling victim of CPA. In particular mothers, as single parents, were confronted with financial and psychological CPA (Browne & Hamilton, 1998; Cancino-Padilla et al., 2020; Ilabaca Baeza & Gaete Fiscella, 2021; Lyons et al., 2015; Vink et al., 2014). Financial CPA was found to be more prevalent in antisocial adolescents with a low family socioeconomic status (SES) (Sousa et al., 2011). Since most emerging adults who commit CPA still live at home, it is reasonable to assume that they have not yet reached financial independence, which might increase the risk of financial CPA (Rico et al., 2017). Another relevant contextual static risk factor stems from domestic violence studies; being a witness to and/or victim of domestic violence increased the risk of committing CPA (Cancino-Padilla et al., 2020; Simmons et al., 2018). Moreover, verbal and

physical aggression by caregivers were found to be related to verbal, psychological, and financial CPA (Bartle-Haring et al., 2015; Cancino-Padilla et al., 2020; Cortina & Martín, 2020).

Dynamic Risk Factors

The extent to which individual dynamic risk factors are related to CPA might change as children transfer from adolescence into emerging adulthood (Ibabe, 2020; Herrenkohl et al., 2022; Simmons et al., 2018, 2019). On the one hand, risk factors may have a bigger impact over time, for instance due to a prolonged period of normalization of coercive interaction styles, development of antisocial cognitions, and substance abuse augmenting at an older age (Herrenkohl et al., 2022). On the other hand, risk factors may exert less influence because of the emerging adults' increased autonomy, legal disposition, and reduced parental dependency (Goodman et al., 2015; Koepke & Denissen, 2012). Nevertheless, comparable results were found for both adolescents and emerging adults with regard to the relation between attention deficits and psychological and financial CPA, and between motor impulsivity and physical CPA (Rico et al., 2017). When attention deficits and motor impulsivity occur alongside negative attitudes towards authority, an increase in use of intimidation as a form of psychological CPA was found (Cortina & Martín, 2020). In both age ranges, substance abuse was associated with physical (Cortina & Martín, 2020) and verbal CPA (Beckmann et al., 2021), with alcohol abuse significantly more present in emerging adults (McManus et al., 2017). A higher prevalence rate of mental health problems (e.g., depressive symptoms, suicidal ideation, distress) was also found in a range of CPA-perpetrator samples (Beckmann et al., 2021; Cortina & Martín, 2020; Simmons et al., 2018), with distress being linked to financial CPA.

In terms of contextual dynamic risk factors, adolescent literature shows that non-authoritative parenting (authoritarian/coercive, neglectful, indulgent/permissive), especially an authoritarian or neglectful parenting style, was positively associated with CPA (Suárez-Relinque et al., 2019). Although the relation between parental factors (such as parenting styles) and CPA has not been established yet (Herrenkohl et al., 2022; Suárez-Relinque et al., 2019), it seems plausible to assume that the consequences of non-authoritative parenting styles are still visible in emerging adults, resulting in different types of CPA. More specifically, verbal abusive behavior can rise from problematic family interactions (Jiménez et al., 2019), which can have a negative impact on levels of perceived stress in all family members.

Central Aim of the Study

The central aim of this multilevel meta-analysis was to identify static and dynamic risk factors for CPA in emerging adults (age 18–23 years). As it stands, this is the first multilevel meta-analysis performed in this group. Based on previous research (e.g., Simmons et al., 2018; Vink et al., 2014), our hypothesis is that the same static (e.g., antisocial personality, male, young) and dynamic (e.g., substance abuse, impulse control deficits) risk factors in adolescent CPA perpetrators would also be found in emerging adults. To fully understand the relations between risk factors and CPA in emerging adults, it is important to assess potential moderators. The included moderators were age and gender of perpetrator, gender of victim, and type of CPA. It was expected that gender of victim (mother vs. father) moderated the relation between single-parent household and CPA. More specific, we hypothesized that single-parent household was a stronger predictor for CPA towards mothers as compared to fathers. Regarding gender of perpetrator, our hypothesis was that physical CPA would more often be exerted by sons, and verbal CPA more often by daughters. Financial CPA was expected to be associated with the presence of low (family) SES and substance abuse problems.

Method

Search Procedure

A systematic search was conducted using the following databases: PsychINFO, PubMed, Medline, Google Scholar, Web of Science, ERIC, the Campbell library, the Cochrane library, ResearchGate, and the Journal citation reports. Search strings in titles consisted of child variables (child, adolescent, youth, teenage, adult) combined with parent and/or family variables (parent*, family, parent-directed, domestic) and outcome variables (abuse, violence, coercion, battered, maltreatment, aggression, exploiting). Regarding child variables, the terms ‘adolescent’ and ‘teenage’ were included, since some studies included 18-year-olds. To ensure the search incorporated all types of abuse, a variety of descriptions was used, amongst which some less explicit types of CPA, such as ‘coercion’.

To identify relevant articles, we used a combination of search terms pertaining to 1) any form of CPA (see introduction) by a child (preferably living at home); 2) age of perpetrator (18–23 years; emerging adults); 3) risk or predictive factors (or a similar description), including studies in which perpetrators suffering from mental

illness committed CPA. In addition, the reference lists of the recent review studies from Simmons et al. (2018), Gallego et al. (2019), and Ibabe (2020) were screened for additional relevant studies that may not have been indexed in the databases.

Eligibility Criteria

Empirical studies describing the association between risk factors and CPA were considered for inclusion if: 1) the sample included at least 10 emerging adults; 2) bivariate analyses were performed; and 3) the sample included a comparison group. Studies were excluded when they met the following criteria: 1) written in a language other than English or Dutch; 2) the included samples consisted solely of children aged under 18 or over 23; and 3) studies published before 2000, due to the elapsed time since publication and the larger chances of data no longer being retrievable.

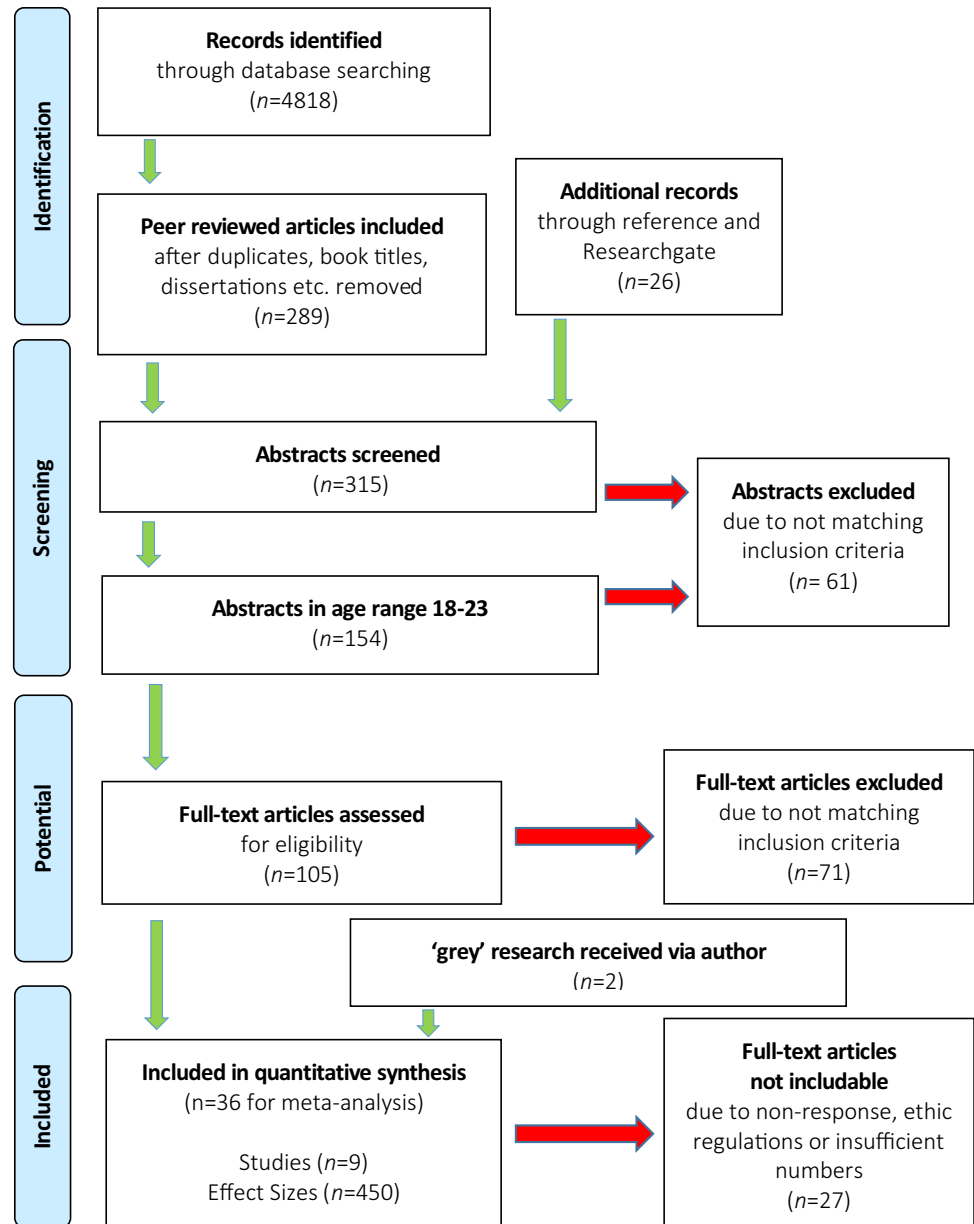
Study Selection

Two researchers were involved in the selection of appropriate publications via two rounds. The first author did the initial selection of studies based on title, which resulted in the inclusion of 315 publications for abstract screening. The abstracts were then screened independently by the first and second author to determine eligibility, resulting in a total of 105 publications for further processing. The average intra-class correlation (ICC) for the abstract round was 0.67, which can be classified as substantial (Landis & Koch, 1977). In the next round, the remaining full text publications were screened, resulting in the final inclusion of 36 publications. The average ICC for the full text round was 0.80, which can be classified as substantial as well. Figure 1 shows the PRISMA diagram of the identification, screening, and inclusion of the publications.

Retrieving Data

During the full text selection, it became apparent that 36 out of 105 studies met the inclusion criteria. However, it was not possible to exclusively select information on the subgroup of CPA perpetrators between the ages of 18 and 23. Samples were either of a broader (from 12 to 25 years) or of a partially (lower or upper) overlapping age range. Therefore, we reached out to the researchers of those 36 studies to obtain the emerging adults’ data. However, due to the COVID-19 pandemic a substantial part of the researchers

Fig. 1 PRISMA flow diagram of search methods



reported being unable to extract the required data due to facilities being closed. Even after the lock down, a repeated follow-up inquiry yielded little to no additional response to our request. As a result, data were not usable due to non-response ($n = 11$), data had gone missing or researchers had restricted access to the data ($n = 7$), or the data included an insufficient number of participants in the preferred age range ($n = 10$). Finally, the quest for data resulted in seven eligible studies, with an additional two unpublished studies, offered by authors receiving our request. Analyses were performed on nine independent samples, highlighted by an asterisk (*) in the reference list. From these studies, a total of 450 effect sizes were extracted.

Coding

The included studies were coded based on characteristics of study, sample, and risk factors (see Appendix A for the final coding form). Factors were distilled and coded from the selected full texts by the first author and independently coded by the second author. During the process of coding, minor adjustments were made when relevant. The third author specifically checked for usability of data per factor in a meta-analytic approach. Initially, all reported risk factors related to CPA were extracted from the eligible studies. To maintain enough power to perform the meta-analysis, each risk factor was assigned to

an overarching category that measured the same construct. Agreement on the assignment of a risk factor to a specific category was reached in a consensus meeting with all three authors. Factors that were measured in a positive sense, were reversely coded. For instance, the factor ‘authority problems’ included: inversion of hierarchy, dominance, and positive attitudes towards authority, of which the latter was inversely coded. After coding, 16 risk categories were identified. In Appendix B a description of each risk category is presented, as well as a description of how the variables used in each study were operationalized. Risk factors measured in only one single study were excluded. These were: low (family) SES, (history of) antisocial behavior, attachment, parental warmth, problematic parental relationship, low frustration tolerance, impulsivity, sexism, anger management issues, and ethnicity (Caucasian). The first and third author independently calculated all effect sizes, and any inconsistencies were discussed and agreed upon.

Statistical Analyses

To quantify the association between a (potential) risk factor and CPA, Pearson correlation coefficients (r) were computed using formulas from Lipsey and Wilson (2001). A positive correlation coefficient indicated that the risk factor was more present in emerging adults with CPA compared to emerging adults without CPA, whereas a negative correlation coefficient indicated that the risk factor was less present in emerging adults with CPA compared to emerging adults without CPA. Next, Pearson correlation coefficients were transformed into Fisher z -values to account for non-normality (Lipsey & Wilson, 2001). After the analyses were performed, the Fisher z -values were transformed back into correlation coefficients to facilitate interpretability. To prevent extreme effect sizes from disproportionately influencing the estimated parameters in the analyses, we checked for outliers by identifying effect sizes with z -values larger than 3.29 or smaller than -3.29 (Tabachnick & Fidell, 2013). In total, four effect sizes were identified with a z -value < -3.29 ($n=2$) or > 3.29 ($n=2$). These effect sizes were substituted by an effect size that equaled the highest or lowest possible value within the normal range.

Most studies reported on more than one association between a risk factor and different types of CPA, resulting in multiple effect sizes per study. To account for the dependency between effect sizes, a three-level random effects model was applied (Assink & Wibbelink, 2016; Cheung, 2014; Raudenbush & Bryk, 2002; Van den Noortgate et al., 2013). A three-level random effects model accounts for three sources of variance: sampling variance (level 1), variance between effect sizes extracted from the same study (level 2), and variance

between studies (level 3). This model was used to estimate an overall effect of each risk factor. Cohen’s (1992) guidelines were used to interpret the size of the overall effects. For risk factors with effect sizes extracted from at least three studies, two one-tailed log-likelihood-ratio-tests were performed to determine whether significant variation was present between effect sizes from the same study (level 2) and/or between studies (level 3). If there was evidence for heterogeneity in effect sizes, moderator analyses were conducted by extending the model with the potential moderators (i.e., age of perpetrator, gender of perpetrator, gender of victim, and CPA type). Prior to testing variables as potential moderators, categorical variables were converted to dummy variables and the continuous variable was centered around its mean.

The analyses were performed in the R environment (version 4.0.5; R Core Team, 2015), using the “rma.mv” function of the “metaphor” package (Viechtbauer, 2010) and based on guidelines formulated by Assink and Wibbelink (2016). To estimate the model parameters, the restricted maximum likelihood procedure was used. In addition, the Knapp and Hartung adjustment (2003) was applied to control for Type I error rates. Finally, a p -value of < 0.05 was considered statistically significant.

Publication Bias

A common problem in conducting a meta-analysis is publication bias (Borenstein et al., 2009) or file drawer bias (Rosenthal, 1995), which implies that studies may not have been published due to non-significant or unfavorable results. Consequently, the estimated effect size may be biased. To test for publication bias, the trim-and-fill procedure of Duval and Tweedie (2000a, b) was performed. In the trim-and-fill analysis, the symmetry of the funnel plots is tested, which is a scatter plot of the distribution of each effect size on the horizontal axis against the standard error. An asymmetric funnel plot indicates possible publication bias. Where an asymmetric funnel plot was found, “missing” effect sizes were imputed to restore the symmetry. For each risk factor with an asymmetric funnel plot, an adjusted overall effect size was estimated.

Results

Descriptives

The present meta-analysis reports on nine independent studies (published between 2000 and 2020) on risk factors for CPA in a sample of emerging adults (18–23 years old). The studies and their characteristics are presented in Tables 1 and 2.

Table 1 Characteristics of included studies

Author	Sample type	Country	N	Sample	Research design	Measure CPA
Cancino-Padilla et al. (2020)	Community	Mexico	229 (out of 256; F:155, M:74)	university students, 18–30 years, (M = 21, SD = 1.84)	non-experimental, cross-sectional and ex post facto design	The Adolescent Child-to-Parent Aggression Questionnaire (CPA-Q)— validated for Mexican population (Calvete & Veytia, 2018)
Contreras and Cano-Lozano (2016)	Community/ Judicial	Spain	11 (out of 90, F:7, M:4)	CPV-off.; Mage = 16.3, SD = 1.34), Non-CPV off.; Mage = 17.07, SD = 1.57), Non-off. insec. school (Mage = 16.27, SD = 1.36)	MANOVA, eta squared statistics, Bonferroni correction & logistic regression	Judicial file analysis
Suárez-Relinque et al. (2019)	Community	Spain	42 (out of 2112, F:18, M:24)	students of secondary schools, 12–18 years (M = 14.72, SD = 1.55)	multivariate factorial design (MANOVA, 4 × 2 × 3)	Conflict Tactics Scales (CTS2)—child-to-parent version
Loiniz and Sousa (2019)	61% clinical 33% judicial	Spain	30 (out of 91, F:7, M:23)	13–28 years in care or program (Mage = 17.07, SD = 2.4), clinical: Mage = 17.50, SD = 2.76, judicial: Mage = 16.23, SD = 1.07)	chi-square tests and odds ratios, t-tests, binary logistic regression analyses	Child-to-Parent Violence Risk assessment tool (CPVR; RVFP originally, 2.1 version)—in validation (Loiniz et al., 2017)
Jiménez et al. (2019)	Community	Spain	105 (out of 2399, F:50, M:55)	students of compulsory secondary education, 11–20 years, (M = 14.66; SD = 1.812)	a structural equation model, covariance matrix, a combination of adjustment indices, bootstrap method	Conflict Tactics Scales (CTS-2; verbal items), adapted to Spanish by Gámez-Guadix and Calvete (2012)
Raji (2018, unpublished)	Community	Nigeria	400 (F:119, M:281)	In 2018, carried out in Ilorin metropolis of Kwara State, Nigeria	multiple Regression Analysis	CPV questionnaire—similar to the one adopted by Contreras et al. (2019)
Del Moral et al. (2019)	Community	Spain	135 (out of 2101, F: 62, M:73)	students from Andalusian schools, 13–18 years (M = 15.07, SD = 1.54)	multivariate factorial design (MANOVA, 3 × 3)	Conflict Tactics Scales (CTS-2) answered for father and mother separately
Cortina and Martín (2020)	Community	Spain	26 (out of 225, F:13, M:13)	high school students, 14–20 years old (M = 16.02; SD = 1.23)	non-experimental design involving cross-sectional comparison	Nine self-reported CPV behaviors (referring to behaviors aimed at controlling and/or causing physical, psychological, emotional or economic harm to parents)—Hernández (2016)

Table 1 (continued)

Author	Sample type	Country	N	Sample	Research design	Measure CPA
Romero-Méndez et al. (2020)	Community	Mexico	38 (out of 407, F:20, M:18)	students of secondary schools, 12–18 years (M = 15.15, SD = 1.79)	non-experimental, cross-sectional and ex post facto design	The Adolescent Child-to-Parent Aggression Questionnaire (CPA-Q)- validated for Mexican population (Calvete & Veytia, 2018)

Table 2 Variables in selected studies

	Static factors										Dynamic factors							
	Individual					Contextual					Individual			Contextual				
	Age	Gen	hCB	AcF	SPh	SES	wDV	vDV	ViG	Psy	Sub	EmP	ACo	APr	Nar	SEp	PaS	Com
Cancino-Padilla et al. (2020)	x	x					x	x										
Contreras and Cano-Lozano (2016)	x			x			x											
Suárez-Relinque et al. (2019)		x						x										x
Loinaz and Sousa (2019)	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x
Jiménez et al. (2019)	x	x								x								x
Raji (2018, unpublished)	x	x		x	x	x												
Del Moral et al. (2019)	x			x								x	x					
Cortina and Martín (2020)	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x
Romero-Méndez et al. (2020)																		

Age age of perpetrator, Gen gender of perpetrator, hCB history of criminal behavior, AcF academic failure, SPh single-parent household, SES low (family)SES, wDV witness to DV, vDV victim to DV, ViG gender of victim, Psy psychopathology, Sub substance (ab)use, EmP emotional problems, ACo antisocial cognitions, APr authority problems, Nar narcissism, SEp self-esteem problems, PaS parenting style, Com communication problems

A total sample size of $N = 1,043$ was reached, of which 54.5% were male. Since none of the studies reported on emerging adults (18- to 23-year-olds) as a subgroup, these data were collected either as summary statistics or as subsets of the original data file via the first author. Due to a limited number of studies that included emerging adults, it proved challenging to reach a sufficient number (at least three or more studies) per factor as a required minimum for a meta-analysis. For risk factors not meeting this criterion (i.e., effect sizes extracted from only two studies), a description of the mean and variance of effect sizes of these risk factors was included.

Risk Factors in Child-to-Parent Violence

A total of 450 effect sizes were calculated (see Table 3) and revealed a small but significant, positive association of CPA with victim of DV ($r = 0.170$), antisocial cognitions ($r = 0.090$) and authority problems ($r = 0.114$). This indicates that CPA is more often found in emerging adults who have fallen victim of DV, suffered from antisocial cognitions and/

or had authority problems. No significant association with CPA was found for age and gender of perpetrator, witness to DV, single-parent household, academic failure, and psychopathology. Between-study heterogeneity (level 3) was significant for age and gender of perpetrator, single-parent household, academic failure, witness to DV, and psychopathology, indicating that moderator analyses were necessary as there was significant variation in effect sizes between studies regarding these variables.

Table 4 presents the results of risk factors reported in two studies. The only risk factor significantly related to CPA was empathy problems, although the effect size was small ($r = 0.081$). Table 4 also shows that negligent parenting style was the only risk factor demonstrating significant variance at level 2 (i.e., variance between effect sizes extracted from the same study). At level 3 (indicating heterogeneity of effect sizes between studies) significant effects were found for substance abuse and self-esteem problems. Despite the significant variations in effect sizes at level 2 and level 3, no moderator analyses were conducted due to insufficient sample sizes.

Table 3 CPA Risk factors in emerging adults

Risk factor	k	# ES	Fisher's Z (SE)	95% CI	p-value	Mean r	% variance level 1	σ^2 level 2	% variance level 2	σ^2 level 3	% variance level 3
Age perpetrator	7	72	0.063 (0.074)	-0.085; 0.210	.400	0.063	30.73	0.000	0.00	0.030***	69.27
Gender perpetrator	7	49	0.028 (0.083)	-0.139; 0.194	.740	0.028	24.12	0.002	2.87	0.041***	73.01
Single-parent household	4	45	-0.055 (0.082)	-0.220; 0.110	.505	-0.055	64.78	0.007	10.26	0.017*	24.96
Academic failure	4	45	-0.045 (0.069)	-0.184; 0.094	.520	-0.045	72.13	0.000	0.00	0.015*	27.87
Victim of DV	4	66	0.172 (0.068)	0.037; 0.307	.014*	0.170	59.24	0.000	0.00	0.103	40.73
Witness to DV	3	42	0.332 (0.223)	-0.118; 0.782	.144	0.330	32.95	0.000	0.00	0.121***	67.05
Antisocial cognitions	3	43	0.090 (0.042)	0.005; 0.174	.039*	0.090	97.65	0.000	0.00	0.036	2.35
Authority problems	3	43	0.114 (0.035)	0.044; 0.184	.002**	0.114	100	0.000	0.00	0.000	0.00
Psychopathology	3	45	0.055 (0.101)	-0.148; 0.259	.588	0.055	65.63	0.000	0.00	0.027**	34.37

k number of studies containing this factor

Table 4 Risk factors from two studies

Risk factor	k	# ES	Fisher's Z (SE)	95% CI	p-value	Mean r	% variance level 1	σ^2 level 2	% variance level 2	σ^2 level 3	% variance level 3
Communication problems	2	45	0.130 (0.090)	-0.052; 0.312	.157	0.129	81.03	0.000	0.00	0.013	18.97
Substance abuse	2	41	0.176 (0.140)	-0.108; 0.459	.218	0.174	61.98	0.000	0.00	0.036**	38.02
Empathy problems	2	41	0.081 (0.038)	0.004; 0.157	.039*	0.081	100	0.000	0.00	0.000	0.00
Narcissism	2	41	-0.053 (0.038)	-0.129; 0.023	.169	-0.053	100	0.000	0.00	0.000	0.00
Self-esteem problems	2	41	0.017 (0.153)	-0.293; 0.327	.912	0.017	57.41	0.000	0.00	0.044**	42.59
Hist. of criminal behavior	2	39	0.082 (0.072)	-0.064; 0.228	.262	0.082	80.05	0.099	12.21	0.079	7.74
Parenting style: negligent	2	54	0.120 (0.087)	-0.053; 0.294	.170	0.119	54.76	0.026*	30.88	0.012	14.35

k number of studies containing this factor

Moderator Analyses on Risk Factors and CPA

Table 5 shows the results of the moderator analyses with age and gender of perpetrator, gender of victim, and type of CPA as moderator variables for six risk factors (age, gender of perpetrator, single-parent household, academic failure, witness to DV, and psychopathology).

No moderating effects were found on the relation of CPA with age of perpetrator, academic failure, and psychopathology. The relation between gender of perpetrator and CPA was found to be moderated by gender of victim ($p = 0.033$) and CPA type ($p = 0.021$). The strength of the association between gender of perpetrator (son vs. daughter) and CPA increased when, compared to mothers, CPA was directed towards fathers ($\beta_1 = 0.128$) and decreased for verbal/psychological CPA compared to physical CPA ($\beta_1 = -0.118$). However, gender of perpetrator was not a significant risk factor, neither for CPA directed at fathers ($\beta_0 = 0.090$) nor for verbal/psychological abuse as a specific type of CPA ($\beta_0 = -0.030$).

Only gender of victim was found to moderate the relation between living in a single-parent household and CPA, suggesting that, compared to mothers, the likelihood of CPA directed towards fathers decreased significantly in a single-parent household ($\beta_1 = -0.447$, $p < 0.001$). Moreover, a single-parent household appeared to be a protective factor for CPA when directed at fathers ($\beta_0 = -0.474$). Finally, a significant negative moderating effect of age was found on the association between witnessing DV and CPA, suggesting that the strength of the association between witness to DV and CPA decreased ($\beta_1 = -0.701$, $p = 0.007$) in older CPA-perpetrators.

Publication Bias

Indications of publication bias were found for several factors (gender of perpetrator, household, academic failure, antisocial cognitions, and authority problems) resulting in left-skewed funnel plots (Supplemental Material, Tables 6 and 7). The right side of the funnel plot showed missing effect sizes for victim of DV, witness to DV, and psychopathology (Supplemental Material, Tables 6 and 7). Only the funnel plot of age was symmetrically distributed.

Apart from single-parent household, none of the effects changed in relative strength after the trim-and-fill analyses. Trim-and-fill analysis for the two-study-risk factors only emphasized that research on these factors is too scarce for drawing solid conclusions.

Discussion

In the present multilevel meta-analysis, static and dynamic risk factors for CPA were examined in emerging adults (i.e., 18- to 23-year-olds) in subsamples from nine studies. These studies were conducted in three different countries over three continents, containing 450 effect sizes, with a total sample size of $N = 1,043$. As expected, the findings revealed a significant, positive association with CPA in emerging adults for victimhood of DV, antisocial (pro-aggressive) cognitions, authority problems, and empathy problems. No significant associations, however, were found between CPA and communication problems, substance abuse, narcissism, self-esteem problems, history of criminal behavior, and non-authoritative parenting style. Moreover, we did not find significant associations between CPA and age, gender, single parent household, academic failure, witness to DV, and psychopathology. The larger degree of variance found in these factors did suggest a possible influence of sample characteristics on the association between these risk factors and CPA. As for moderating effects, none were found on the relation between age, academic failure, psychopathology and CPA. The relation between gender of perpetrator and CPA was found to be moderated by gender of victim and CPA type. In addition, gender of victim moderated the relation between single parent household and CPA, and, finally, a moderating effect of age was found on the association between witnessing DV and CPA.

With regard to the individual static risk factors, our findings showed that CPA perpetration was equally dispersed across gender of perpetrator, matching previous study findings in community samples (e.g., Beckmann et al., 2021; Cancino-Padilla et al., 2020; Cortina & Martín, 2020). Ambiguous results were found for other static risk factors, such as age of perpetrator. Although previous studies demonstrated that the frequency of CPA perpetration declined over age (Simmons et al., 2018), our results did not corroborate these findings. Our results, however, did concur with recent findings in a judicial sample by Cuervo and Palanques (2022), indicating CPA perpetration might be a more continuous phenomenon. Perhaps, after a certain age, the degree of CPA perpetration remains more constant. The absence of a significant relation between CPA and academic failure also deviates from previous findings (Cano-Lozano et al., 2021b; Cortina & Martín, 2020; Howard & Rottem, 2008; Rico et al., 2017). Possibly, the emerging adults' transference from school into work rendered academic performance out of the equation (Arnett, 2000). Surprisingly, a history of criminal behavior showed no significant relationship with CPA, whereas prior antisocial behavior is known to be an important static risk factor

Table 5 Moderator analyses

Moderator variables	k	# ES	β_0 (95% CI)	β_1 (95% CI)	F(df1, df2)	p-value
Age perpetrator	7	72				
Gender perpetrator	7	72			0.532 (2, 69)	.590
Female (RC)	5	19	0.039 (-0.115; 0.193)			
Male	6	27	0.078 (-0.074; 0.231)	0.039 (-0.039; 0.118)		
Both	5	26	0.062 (-0.089; 0.212)	0.023 (-0.042; 0.088)		
Gender victim	7	72			0.082 (2, 69)	.921
Mother (RC)	2	17	0.050 (-0.109; 0.210)			
Father	2	18	0.059 (-0.100; 0.219)	0.009 (-0.064; 0.082)		
Both	7	37	0.065 (-0.083; 0.213)	0.014 (-0.057; 0.086)		
CPA type	5	72			0.788 (3, 68)	.505
Physical (RC)	3	20	0.094 (-0.068; 0.256)			
Verbal / psychological	3	20	0.060 (-0.101; 0.222)	-0.033 (-0.105; 0.038)		
Financial	2	11	-0.028 (-0.249; 0.193)	-0.122 (-0.298; 0.054)		
Mixed	7	21	0.068 (-0.086; 0.223)	-0.026 (-0.099; 0.047)		
Gender perpetrator	7	49				
Age perpetrator	5	49	0.036 (-0.151; 0.224)	-0.024 (-0.160; 0.113)	0.121 (1, 47)	.730
Gender victim	7	49			4.305 (2, 46)	.019
Mother (RC)	4	14	-0.038 (-0.215; 0.140)			
Father	4	14	0.090 (-0.087; 0.267)	0.128 (0.040; 0.216)**		
Both	7	21	0.028 (-0.140; 0.197)	0.066 (-0.021; 0.153)		
CPA type	7	49			2.839 (3, 45)	.048
Physical (RC)	5	13	0.088 (-0.090; 0.266)			
Verbal / psychological	5	17	-0.030 (-0.207; 0.146)	-0.118 (-0.206; -0.031)**		
Financial	3	7	0.099 (-0.122; 0.320)	0.011 (-0.158; 0.179)		
Mixed	6	12	0.015 (-0.159; 0.190)	-0.073 (-0.164; 0.019)		
Single-parent household	4	45				
Age perpetrator	4	45	-0.030 (-0.181; 0.120)	-0.063 (-0.167; 0.041)	1.508 (1, 43)	.226
Gender perpetrator	4	45			1.230 (2, 42)	.303
Female (RC)	3	13	-0.111 (-0.336; 0.115)			
Male	3	16	-0.100 (-0.285; 0.084)	0.010 (-0.206; 0.227)		
Both	3	16	0.020 (-0.167; 0.206)	0.130 (-0.094; 0.354)		
Gender victim	4	45			11.541 (2, 42)	< .001
Mother (RC)	1	8	-0.028 (-0.261; 0.205)			
Father	1	9	-0.474 (-0.706; -0.243)***	-0.447 (-0.679; -0.214)***		
Both	4	28	-0.010 (-0.160; 0.141)	0.018 (-0.192; 0.229)		
CPA type	4	45			2.203 (3, 41)	.102
Physical (RC)	2	12	-0.063 (-0.336; 0.210)			
Verbal / psychological	2	13	-0.228 (-0.492; 0.036)+	-0.165 (-0.363; 0.033)		
Financial	2	12	-0.047 (-0.319; 0.226)	0.016 (-0.188; 0.220)		
Mixed	4	8	0.036 (-0.211; 0.284)	0.099 (-0.145; 0.343)		
Academic failure	4	45				
Age perpetrator	4	43	-0.126 (-0.362; 0.110)	0.071 (-0.067; 0.210)	1.093 (1, 41)	.302
Gender perpetrator	4	45			0.279 (2, 42)	.758
Female (RC)	4	13	-0.045 (-0.230; 0.141)			
Male	4	17	-0.065 (-0.136; 0.177)	-0.021 (-0.177; 0.136)		
Both	2	15	-0.010 (-0.188; 0.169)	0.035 (-0.155; 0.225)		
Gender victim	4	45			0.266 (2, 42)	.768
Mother (RC)	1	8	0.021 (-0.208; 0.249)			
Father	1	9	-0.017 (-0.244; 0.209)	-0.038 (-0.271; 0.195)		
Both	4	28	-0.055 (-0.191; 0.245)	-0.075 (-0.285; 0.134)		

Table 5 (continued)

Moderator variables	k	# ES	β_0 (95% CI)	β_1 (95% CI)	F(df1, df2)	p-value
CPA type	4	45			0.933 (3, 41)	.433
Physical (RC)	2	11	0.053 (-0.171; 0.277)			
Verbal / psychological	2	13	-0.018 (-0.227; 0.192)	-0.071 (-0.273; 0.130)		
Financial	2	12	-0.114 (-0.334; 0.106)	-0.167 (-0.374; 0.040)		
Mixed	4	9	-0.058 (-0.229; 0.113)	-0.111 (-0.343; 0.120)		
Witness to DV	3	42				
Age perpetrator	3	42	0.075 (-0.389; 0.539)	-0.701 (-1.198; -0.204)	8.121 (1, 40)	.007
Gender perpetrator	3	42			1.608 (2, 39)	.213
Female (RC)	2	11	0.123 (-0.395; 0.640)			
Male	2	15	0.354 (-0.121; 0.829)	0.231 (-0.053; 0.515)		
Both	3	16	0.358 (-0.104; 0.821)	0.236 (-0.035; 0.506) +		
Gender victim	3	42			0.760 (2, 39)	.474
Mother (RC)	1	8	0.273 (-0.170; 0.716)			
Father	1	9	0.214 (-0.228; 0.656)	-0.059 (-0.292; 0.174)		
Both	3	25	0.345 (-0.062; 0.752) +	0.072 (-0.147; 0.291)		
CPA type	3	42			1.827 (3, 38)	.159
Physical (RC)	2	11	0.154 (-0.263; 0.572)			
Verbal / psychological	2	13	0.355 (-0.054; 0.765) +	0.201 (-0.002; 0.403) +		
Financial	2	12	0.277 (-0.139; 0.692)	0.122 (-0.085; 0.330)		
Mixed	3	6	0.408 (-0.014; 0.831) +	0.254 (-0.007; 0.515) +		
Psychopathology	3	45				
Age perpetrator	3	43	0.093 (-0.258; 0.443)	0.102 (-0.319; -0.524)	0.240 (1, 41)	.627
Gender perpetrator	3	45			0.786 (2, 42)	.462
Female (RC)	3	11	0.161 (-0.099; 0.421)			
Male	3	18	0.018 (-0.193; 0.230)	-0.142 (-0.373; 0.088)		
Both	3	16	0.046 (-0.153; 0.245)	-0.115 (-0.333; 0.103)		
Gender victim	3	45			0.079 (2, 42)	.924
Mother (RC)	1	8	0.092 (-0.195; 0.379)			
Father	1	9	0.070 (-0.215; 0.356)	-0.022 (-0.259; 0.215)		
Both / unspecified	1	28	0.049 (-0.171; 0.269)	-0.043 (-0.262; 0.176)		
CPA type	3	45			0.619 (3, 41)	.607
Physical (RC)	2	12	-0.030 (-0.274; 0.214)			
Verbal / psychological	2	12	0.101 (-0.135; 0.337)	0.132 (-0.070; 0.334)		
Financial	2	12	0.031 (-0.213; 0.276)	0.062 (-0.146; 0.269)		
Mixed	3	9	0.074 (-0.149; 0.298)	0.105 (-0.134; 0.343)		

k number of studies containing this factor, + marginally significant effect or trend effect ($.05 < p < .10$)

(Andrews et al., 2006). Data used in this meta-analysis was predominantly gathered in a scholarly context and more often included a sample of higher educated emerging adults. As higher education proved to be inversely related to criminal conduct (Ford & Schroeder, 2010), this might explain why a significant effect is absent. Various explanations may underlie the contrast between our results and previous findings. Firstly, in previous research only small samples of CPA-perpetrators in the age range 18–23 years were included. Secondly, these samples differed in terms of type of measurement used and data source (e.g., child, parent, clinician). Moreover, operationalization of CPA in

terminology, frequency, and severity differed between studies, which might have led to variations in labeling behavior as abusive (Ibabe, 2020). As Herrenkohl et al. (2022) rightly pointed out, there is still much knowledge to be acquired on proximal and distal influences of individual risk factors on CPA over time.

Results on contextual static risk factors showed that living in a single-parent household did not increase the risk of CPA towards mothers as opposed to previous findings (Kuay et al., 2017; Loinaz & Sousa, 2019; McManus et al., 2017; Peck et al., 2021). In contrast, it seemed to decrease the risk of victimization for single-household fathers, for which no

prior reference in research was found. The higher number of double versus single-parent households in our study could have influenced the non-significant relation between CPA and mothers as victim of CPA. Alternatively, as suggested by Koepke and Denissen (2012), developmental shifts towards independency (such as spending less time at home) alter the parent–child relationship but also limit the opportunities for CPA to occur. As expected, exposure to domestic violence, especially victimization, was found to be a relevant risk factor for CPA. It is consistent with previous findings that domestic violence increases the risk of CPA towards either parent (Martín et al., 2022; Simmons et al., 2020). Moreover, it is a well-known predictor for criminal behavior in general (Andrews et al., 2006; Martín et al., 2022). As for a potential reciprocal effect between (current) child abuse and CPA, more research is needed on possible transference from a unidirectional into a bidirectional relationship between these types of abuse (Gallego et al., 2019; Martín et al., 2022). Victimization can also indirectly contribute to the risk of CPA by giving rise to antisocial (pro-aggressive) cognitions or decrease the willingness to accept authority from parents or any authority figure (Browne & Hamilton, 1998). The positive, but non-significant, association between CPA and witnessing DV found in our meta-analysis is somewhat surprising, as it is a known precursor to health risks and emotional problems (Sousa et al., 2011) and hostile perceptions (Contreras & Cano-Lozano, 2016). The latter is found to increase the risk of emotional and psychological CPA (Cortina & Martín, 2020).

Relevant individual dynamic factors for CPA in emerging adults such as antisocial cognitions and authority and empathy problems, have proven to uphold as risk factors. The absence of a significant relation between our overarching category ‘psychopathology’ and CPA contradicts with previous findings on the presence of mental health problems in perpetrator samples (Simmons et al., 2018). Further research with larger samples on type of psychopathology in relation to (type of) CPA is expected to yield different results, as significant relations were previously found between CPA and inhibitory and behavioral problems, attention deficits and motor impulsivity, depressive symptomatology and suicidal ideation, and (perceived) distress (Beckmann et al., 2021; Cortina & Martín, 2020; Ghanizadeh & Jafari, 2010; Jiménez et al., 2019; Rico et al., 2017; Simmons et al., 2018). In the two-study risk factors section of our meta-analysis, only empathy problems correlated with CPA. Having trouble relating to the feelings of others may negatively impact the inhibition of abusive behavior or the quality of the parent–child relationship. This concurs with recent findings by Martín et al. (2020) in both adolescents and adults, but it contradicts results from the Contreras’ et al. (2020) study in adolescents. The limited available data could account for the lack of associations between CPA on the one hand and communication problems, substance abuse, narcissism and self-esteem problems on the other. In particular, the individual dynamic

risk factors substance abuse and self-esteem problems warrant further research, since these have proven to be related to risk of criminal behavior in general (Andrews et al., 2006).

As for the contextual dynamic risk factors, no significant relations were found between non-authoritative parenting styles, communication problems, and CPA. This was unexpected because previous studies almost consistently reported on the influence of parenting style (Cano-Lozano et al., 2021a; Harris-McKoy & Cui, 2013), especially combined with exposure to domestic violence and communication problems (see Bartle-Haring et al., 2015; Beckmann et al., 2021; Gallego et al., 2019; Kuay et al., 2017; Lyons et al., 2015; Simmons et al., 2020). Moreover, parent-to-child communication problems were associated with a negative attitude towards authority (Del Moral et al., 2019), both of which were found to increase the chance of psychological CPA (Cortina & Martín, 2020).

Contrary to our expectations, only few moderating effects were found—one of them being age of perpetrator. However, it only influenced the relation between witnessing DV and CPA, decreasing in strength when perpetrators got older. Over time, the negative effect of witnessing DV might diminish as emerging adults spend more time elsewhere, with peers or may feel less powerless to change their situation (Goodman et al., 2015). Age not being a relevant risk factor or moderator for all but one of the incorporated risk factors (namely witness to DV) concurs with recent findings by Martín et al. (2022), suggesting that adolescents and emerging adults might have an overlapping CPA perpetrator profile. Although living in a single-parent household was not significantly related to CPA, the relation proved to be moderated by gender of victim. Living as a single father seems to be a protective factor for CPA, which contrasts earlier findings that single-household mothers in particular are at greater risk of CPA (Cancino-Padilla et al., 2020; Kuay et al., 2017; Loinaz & Sousa, 2019; McManus et al., 2017; Peck et al., 2021). However, a relatively smaller number of fathers were identified in our study as primary caregiver in a single-parent household, so in most cases CPA in a single parent household would have been mother-oriented. Gender of victim also moderated the relation between gender of perpetrator and CPA, leaving fathers at slightly bigger risk for CPA by sons, compared to mothers. Although only few fathers were indicated as victim within the included samples. Finally, a moderating influence of type of CPA was only found for the relation between gender of perpetrator and CPA. More specifically, differences in male and female perpetrators decreased regarding verbal/psychological CPA when compared to physical CPA. On the one hand this could be explained by an augmented control over (aggressive) impulses when aging (especially in boys), on the other hand a learning effect could be at play. As verbal/psychological CPA often precedes physical CPA, and threats and intimidation prove sufficient to assert control, adolescent boys may experience a lesser need to transgress into physical CPA when growing into adulthood. Girls on the

other hand tend to display more physical aggression over time. Interestingly, Beckmann et al. (2021) did find a higher level of verbal CPA in adolescent daughters, but no gender differences in perpetration of physical CPA. Further research is needed to clarify whether this is an age-related difference.

Limitations and Future Directions

In this meta-analysis, several interesting findings emerged. Yet, some limitations must be addressed. First, the results from the included studies partially depended on the way CPA was defined and operationalized in terms of target behavior, frequency, and severity (Ibabe, 2020; Simmons et al., 2018; Williams et al., 2017). For example, when yelling at your mother once is defined as verbal abuse, a relatively large part of the sample will be labelled as perpetrator. The distinction between oppositional conduct and abusive behavior, however, might be more complex, rendering it less likely to find differences on factor level (Ibabe, 2020). Using a universal CPA definition helps to improve the identification of similarities and differences in risk factors across studies. This is especially important for CPA types with low prevalence rates, such as financial and sexual CPA (the latter was excluded from our study due to a lack of data).

Second, the results may be influenced by the way risk categories were operationalized (Williams et al., 2017). For instance, risk categories such as narcissism and empathy deficits were coded as separate risk factors, but theoretically might share a similar underlying construct of mentalization problems. This limitation needs to be addressed in future research. Third, potential publication bias was found for all but one of the risk factor categories, suggesting a limited generalization over CPA perpetrators emerging into adulthood. However, the trim-and-fill method used to check for potential publication bias is not particularly suited for use in heterogeneous data (Shi & Lin, 2019), but is second best as there are no viable methods available for assessing independent effect sizes from three-level meta-analyses.

Fourth, the meager findings on dynamic risk factors and moderating influences render inferences on their distinctive relatedness to (types of) CPA less feasible. It is possible that other -not included- risk or moderating factors play a role in predicting risk of CPA, such as attachment problems or specific psychopathology. Any potential impact of developmental changes on the influence of parenting styles (Harris-McKoy & Cui, 2013) and subsequently the impact of other risk factors (Simmons et al., 2018), highlight a potential weakness of retrospective designs, given its little sensitivity for changes over time.

Lastly, the results are influenced by a limited availability of data, resulting in an underpowered meta-analysis. Striving for an open science society, in which researchers worldwide can access data, could help the field move forward. Conducting more empirical and longitudinal studies could

‘fill the gap’ in knowledge about the (interaction between) risk factors and moderating effects for CPA (Simmons et al., 2018).

Clinical Implications

One of the final developmental phases of emerging adults will be leaving the parental home to start a family of their own, emphasizing the importance of both early prevention as well as targeted interventions to prohibit the intergenerational cycle of domestic violence to continue into the next generation (Martín et al., 2022). Several findings from our meta-analysis are worth mentioning with regard to therapeutic interventions. Firstly, the need to focus interventions on changing dysfunctional cognitions and empathy problems in emerging adults. Secondly, a family-oriented approach is needed, focusing on both the importance of preventing and ending domestic violence in family homes as well as working systemically to restore hierarchy by creating an age-appropriate equilibrium of power. As recent data shows, emerging adults move out at an increasingly older age (Dutch Central Bureau of Statistics [CBS], 2019; Fry et al., 2020; Eurostat, 2021). Hence, future research remains essential to gain more insight into the complex interplay of factors associated with CPA in emerging adults.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10896-022-00469-4>.

Declarations

Declarations of Interest None.

References

Analyses were performed on nine independent samples, highlighted by an asterisk (*) in the reference list. From these studies, a total of 450 effect sizes were extracted

- Andrews, D. A., Bonta, J., & Wormith, J. S. (2006). The recent past and near future of risk and/or need assessment. *Crime & Delinquency*, 52(1), 7–27. <https://doi.org/10.1177/0011128705281756>
- 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>
- Assink, M., & Wibbelink, C. J. M. (2016). Fitting three-level meta-analytic models in R: A step-by-step tutorial. *The Quantitative Methods for Psychology*, 12, 154–174. <https://doi.org/10.20982/tqmp.12.3.p154>
- Bartle-Haring, S., Slesnick, N., & Carmona, J. (2015). Reciprocity in adolescent and caregiver violence. *Journal of Family Violence*, 30(2), 149–159. <https://doi.org/10.1007/s10896-014-9659-5>

- Beckmann, L., Bergmann, M. C., Fischer, F., & Möble, T. (2021). Risk and protective factors of child-to-parent violence: A comparison between physical and verbal aggression. *Journal of Interpersonal Violence, 36*(3–4), 1309–1334. <https://doi.org/10.1177/0886260517746129>
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to meta-analysis*. Wiley. https://doi.org/10.1111/j.1751-5823.2009.00095_15.x
- Browne, K. D., & Hamilton, C. E. (1998). Physical violence between young adults and their parents: Associations with a history of child maltreatment. *Journal of Family Violence, 13*(1), 59–79. <https://doi.org/10.1023/A:1022812816957>
- Björkqvist, K. (2017). Gender differences in aggression. *Current Opinion in Psychology, 19*, 39–42. <https://doi.org/10.1016/j.copsyc.2017.03.030>
- *Cancino-Padilla, D., Romero-Méndez, C., & Rojas-Solís, J. (2020). Exposure to parental violence, child to parent violence and dating violence of Mexican youth. *Interacciones, 6*(2), e228. <https://doi.org/10.24016/2020.v6n2.228>
- Cano-Lozano, M. C., León, S. P., & Contreras, L. (2021a). Relationship between punitive discipline and child-to-parent violence: The moderating role of the context and implementation of parenting practices. *International Journal of Environmental Research and Public Health, 19*(1), 182. <https://doi.org/10.3390/ijerph19010182>
- Cano-Lozano, Navas-Martinez, M. J., & Contreras, L. (2021b). Child-to-parent violence during confinement due to COVID-19: Relationship with other forms of family violence and psychosocial stressors in Spanish youth. *Sustainability (Basel, Switzerland), 13*(20), 11431. <https://doi.org/10.3390/su132011431>
- Calvete, E., & Veytia, M. (2018). Adaptation of the Child-to-Parent Violence Questionnaire to Mexican adolescents. *Revista Latinoamericana de Psicología, 50*(1), 49–60. <https://doi.org/10.14349/rlp.2018.v50.n1.5>
- Cheung, M. W. L. (2014). Modeling dependent effect sizes with three-level meta-analyses: A structural equation modeling approach. *Psychological Methods, 19*, 211–229. <https://doi.org/10.1037/a0032968>
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155–159. <https://doi.org/10.1037//0033-2909.112.1.155>
- Contreras, L., & Cano, C. (2014). Family profile of young offenders who abuse their parents: A comparison with general offenders and non-offenders. *Journal of Family Violence, 29*(8), 901–910. <https://doi.org/10.1007/s10896-014-9637-y>
- *Contreras, L., & Cano-Lozano, M. C. (2016). Child-to-parent violence: The role of exposure to violence and its relationship to social-cognitive processing. *The European Journal of Psychology Applied to Legal Context, 8*(2), 43–50. <https://doi.org/10.1016/j.ejpal.2016.03.003>
- Contreras, L., Bustos-Navarrete, C., & Cano-Lozano, M. C. (2019). Child-to-parent Violence Questionnaire (CPVQ): Validation among Spanish adolescents. *International Journal of Clinical and Health Psychology, 19*(1), 67–74. <https://doi.org/10.1016/j.ijchp.2018.09.001>
- Contreras, L., León, S. P., & Cano-Lozano, M. C. (2020). Socio-cognitive variables involved in the relationship between violence exposure at home and child-to-parent violence. *Journal of Adolescence, 80*, 19–28. <https://doi.org/10.1016/j.adolescence.2020.01.017>
- Coogan, D., & Lauster, E. (2020). Challenging behaviour, non violent resistance (NVR) and parents/carers in a time of COVID 19. *Social Work 2020–21 under COVID 19 (4)*. Retrieved from <https://sw2020covid19.group.shef.ac.uk/2020/06/03/challenging-behaviour-non-violent-resistance-nvr-and-parents-carers-in-a-time-of-covid-19>
- *Cortina, H., & Martín, A. M. (2020). The behavioral specificity of child-to-parent violence. *Anales de Psicología / Annals of Psychology, 36*(3), 386–399. <https://doi.org/10.6018/analesps.36.3.411301>
- Crichton-Hill, Y., Evans, N., & Meadows, L. (2004). Adolescent violence to parents. *Te Awatea Review, 4*(2), 21–22. Retrieved from <http://hdl.handle.net/10092/655>
- Cuervo, K., & Palanques, N. (2022). Risk and protective factors in child-to-parent violence: A study of the YLS/CMI in a Spanish juvenile court. *Journal of Child and Family Studies, 31*, 1707–1723. <https://doi.org/10.1007/s10826-022-02295-0>
- DeLong, L. B., & Kahn, J. H. (2014). Shameful secrets and shame-prone dispositions: How outcome expectations mediate the relation between shame and disclosure. *Counselling Psychology Quarterly, 27*(3), 290–307. <https://doi.org/10.1080/09515070.2014.908272>
- *Del Moral, G., Suárez-Relinque, C., Callejas, J. E., & Musitu, G. (2019). Child-to-parent violence: Attitude towards authority, social reputation and school climate. *International Journal of Environmental Research and Public Health, 16*(13), 2384. <https://doi.org/10.3390/ijerph16132384>
- Dutch Central Bureau of Statistics [CBS]. (2019). *Both studying and working young people leave home later*. Retrieved from <https://www.cbs.nl/en-gb/news/2019/06/both-studying-and-working-young-people-leave-home-later>
- Duval, S., & Tweedie, R. (2000a). A nonparametric ‘trim and fill’ method of accounting for publication bias in meta-analysis. *Journal of the American Statistical Association, 95*, 89–99. <https://doi.org/10.1080/01621459.2000.10473905>
- Duval, S., & Tweedie, R. (2000b). Trim and fill: A simple funnel plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics, 56*, 455–463. <https://doi.org/10.1111/j.0006-341X.2000.00455.x>
- Eisenberg, D., Downs, M. F., Golberstein, E., & Zivin, K. (2009). Stigma and help seeking for mental health among college students. *Medical Care Research and Review, 66*(5), 522–541. <https://doi.org/10.1177/1077558709335173>
- Eisenberg, M. J., van Horn, J. E., Dekker, J. M., Assink, M., van der Put, C. E., Hendriks, J., & Stams, G. J. J. M. (2019). Static and dynamic predictors of general and violent criminal offense recidivism in the forensic outpatient population: A meta-analysis. *Criminal Justice and Behavior, 46*(5), 732–750. <https://doi.org/10.1177/0093854819826109>
- Eurostat. (2021). *Age of young people leaving their parental household*. Retrieved from <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/edn-20210812-1>
- Ford, J. A., & Schroeder, R. D. (2010). Higher education and criminal offending over the life course. *Sociological Spectrum, 31*(1), 32–58. <https://doi.org/10.1080/02732173.2011.525695>
- Fry, R., Passel, J. S., & Cohen, D’V. (2020). *A majority of young adults in the U.S. live with their parents for the first time since the Great Depression*. Pew Research Center. Retrieved from <https://www.pewresearch.org/fact-tank/2020/09/04/a-majority-of-young-adults-in-the-u-s-live-with-their-parents-for-the-first-time-since-the-great-depression/>
- Gallego, R., Novo, M., Fariña, F., & Arce, R. (2019). Child-to-parent violence and parent-to-child violence: A meta-analytic review. *The European Journal of Psychology Applied to Legal Context, 11*, 51–59. <https://doi.org/10.5093/ejpalc2019a4>
- Gámez-Guadix, M., & Calvete, E. (2012). Child-to-parent violence and its association with exposure to marital violence and parent-to-child violence. *Psicothema, 24*(2), 277–283.
- Ghanizadeh, A., & Jafari, P. (2010). Risk factors of abuse of parents by their ADHD children. *European Child and Adolescent Psychiatry, 19*(1), 75–81. <https://doi.org/10.1007/s00787-009-0067-y>
- Goodman, I., Henderson, J., Peterson-Badali, M., & Goldstein, A. (2015). The relationship between psychosocial features of emerging adulthood and substance use change motivation in youth.

- Journal of Substance Abuse Treatment*, 52, 58–66. <https://doi.org/10.1016/j.jsat.2014.12.004>
- Harris-McKoy, D., & Cui, M. (2013). Parental control, adolescent delinquency, and young adult criminal behavior. *Journal of Child and Family Studies*, 22(6), 836–843. <https://doi.org/10.1007/S10826-012-9641-X>
- Hernández, A. (2016). *El perfil psicossocial de los agresores y de las víctimas de la violencia filioparental (The psychosocial profile of aggressors and victims of child-to-parent violence)* [Unpublished doctoral dissertation], Universidad de La Laguna, Spain.
- Herrenkohl, T. I., Fedina, L., Roberto, K. A., Raquet, K. L., Hu, R. X., Rousson, A. N., & Mason, W. A. (2022). Child maltreatment, youth violence, intimate partner violence, and elder mistreatment: A review and theoretical analysis of research on violence across the life course. *Trauma, Violence & Abuse*, 23(1), 314–328. <https://doi.org/10.1177/1524838020939119>
- Holt, A. (2016). Adolescent-to-parent abuse as a form of “domestic violence.” *Trauma, Violence, & Abuse*, 17(5), 490–499. <https://doi.org/10.1177/1524838015584372>
- Howard, J., & Rottem, N. (2008). *It all starts at home: Male adolescent violence towards sole mothers*. Melbourne, Aus: Inner South Community Health Services. Retrieved from <https://apo.org.au/node/3995>
- Ibabe, I. (2020). A systematic review of youth-to-parent aggression: Conceptualization, typologies, and instruments. *Frontiers of Psychology*, 11, 32–40. <https://doi.org/10.3389/fpsyg.2020.577757>
- Ilabaca Baeza, P. A., & Gaete Fiscella, J. M. (2021). Adolescents who are violent toward their parents: An approach to the situation in Chile. *Journal of Interpersonal Violence*, 36(11–12), NP5678–NP5698. <https://doi.org/10.1177/0886260518808856>
- Izaguirre, A., & Calvete, E. (2017). Exposure to family violence as a predictor of dating violence and child-to-parent aggression in Spanish adolescents. *Youth & Society*, 49(3), 393–412. <https://doi.org/10.1177/0044118X16632138>
- *Jiménez, T. I., Estévez, E., Velilla, C. M., Martín-Albo, J., & Martínez, M. L. (2019). Family communication and verbal child-to-parent violence among adolescents: The mediating role of perceived stress. *International Journal of Environmental Research and Public Health*, 16(22), 4538. <https://doi.org/10.3390/ijerph16224538>
- Knapp, G., & Hartung, J. (2003). Improved tests for a random effects meta-regression with a single covariate. *Statistics in Medicine*, 22, 2693–2710. <https://doi.org/10.1002/sim.1482>
- Koepke, S., & Denissen, J. J. A. (2012). Dynamics of identity development and separation–individuation in parent–child relationships during adolescence and emerging adulthood – A conceptual integration. *Developmental Review*, 32, 67–88. <https://doi.org/10.1016/j.dr.2012.01.001>
- Kuay, H. S., Tiffin, P. A., Boothroyd, L. G., Towl, G. J., & Centifanti, L. C. M. (2017). A new trait-based model of child-to-parent aggression. *Adolescent Research Review*, 2, 199–211. <https://doi.org/10.1007/s40894-017-0061-4>
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33, 159–174. <https://doi.org/10.2307/2529310>
- Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Sage.
- Loinaz, I., Andrés-Pueyo, A., & Pereira, R. (2017). Child-to-parent violence risk factors: An approach with expert judgement. *Acción Psicológica*, 14(2), 17–32. <https://doi.org/10.5944/ap.14.2.20747>
- Loinaz, I., Barboni, L., & Ma de Sousa, A. (2020). Gender differences in child-to-parent violence risk factors. *Anales de Psicología / Annals of Psychology*, 36(3), 408–417. <https://doi.org/10.6018/analesps.428531>
- *Loinaz, I., & Sousa, A. M. D. (2019). Assessing risk and protective factors in clinical and judicial child-to-parent violence cases. *The European Journal of Psychology Applied to Legal Context*, 12 (1), 43–51. <https://doi.org/10.5093/ejpalc2020a5>
- Lyons, J., Bell, T., Fréchette, S., & Romano, E. (2015). Child-to-parent violence: Frequency and family correlates. *Journal of Family Violence*, 30, 729–742. <https://doi.org/10.1007/s10896-015-9716-8>
- Martín, A. M., De la Fuente, L., Hernández, A., Zaldívar, F., Ortega-Campos, E., & García-García, J. (2022). Psychosocial profile of juvenile and adult offenders who acknowledge having committed child-to-parent violence. *International Journal of Environmental Research and Public Health*, 19(1), 601. <https://doi.org/10.3390/ijerph19010601>
- Martín-Albo, J., Núñez, J. L., Navarro, J. G., & Grijalvo, F. (2007). The Rosenberg self-esteem scale: Translation and validation in university students. *The Spanish Journal of Psychology*, 10, 458–467. <https://doi.org/10.1017/s1138741600006727>
- McManus, M., Almond, L., & Bourke, J. (2017). Exploring child-to-parent domestic abuse: Offender characteristics and DASH individual risk factors associated with recidivism. *Journal of Forensic Psychology*, 2, 124. <https://doi.org/10.4172/2475-319X.1000124>
- Pavelea, A., & Moldovan, O. (2020). Why some fail and others succeed: Explaining the academic performance of PA undergraduate students. *The NISPAcee Journal of Public Administration and Policy*, 13(1), 109–132. <https://doi.org/10.2478/nispa-2020-0005>
- Peck, A., Hutchinson, M., & Provost, S. (2021). Young person-to-mother violence: An integrative review of evidence from Australia and New Zealand. *Australian Social Work*. <https://doi.org/10.1080/0312407X.2021.1887307>
- R Core Team. (2015). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Retrieved from <http://www.R-project.org/>
- Raji, K. O., Raji, A., Adekeye, D. S., & Abdulbaqi, S. Z. (2019). Child-to-parent violence: a study of socio-demographic causes in Ilorin Metropolis, Kwara State. *Anthropological Researches and Studies*, 9, 161–173. <https://doi.org/10.26758/9.1.16>
- *Raji, K. (2018). *Child-to-parent violence in Ilorin metropolis: A study of distal and proximal causative factors* [Unpublished manuscript], University of Ilorin, Nigeria. Retrieved via personal communication.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and Data Analysis Methods 2*. Sage Publications.
- *Rico, E., Rosado, J., & Cantón-Cortés, D. (2017). Impulsiveness and child-to-parent violence: The role of aggressor’s sex. *The Spanish Journal of Psychology*, 20, 1–11. <https://doi.org/10.1017/sjp.2017.15>
- *Romero-Méndez, C., Cancino-Padilla, D. & Rojas-Solís, J. (2020). Análisis exploratorio sobre violencia filio-parental en una muestra de adolescentes mexicanos. *Revista Psicoespacios*, 14(24), 49–67. <https://doi.org/10.25057/21452776.1297>
- Rosenthal, R. (1995). Writing meta-analytic reviews. *Psychological Bulletin*, 118, 183–192. <https://doi.org/10.1037/0033-2909.118.2.183>
- Simmons, M., McEwan, T., Purcell, R., & Ogloff, J. (2018). Sixty years of child-to-parent abuse research: What do we know and where do we go? *Aggression and Violent Behaviour*, 38, 31–52. <https://doi.org/10.1016/j.avb.2017.11.001>
- Simmons, M. L., McEwan, T. E., Purcell, R., & Huynh, M. (2019). The Abusive Behaviour by Children-Indices (ABC-I): A measure to discriminate between normative and abusive child behaviour. *Journal of Family Violence*, 34, 663–676. <https://doi.org/10.1007/s10896-019-00071-1>
- Simmons, M. McEwan, T. E. & Purcell, R. (2020). A social-cognitive investigation of young adults who abuse their parents. *Journal of Interpersonal Violence*, 1–23. <https://doi.org/10.1177/0886260520915553>

- Shi, L., & Lin, L. (2019). The trim-and-fill method for publication bias: Practical guidelines and recommendations based on a large database of meta-analyses. *Medicine*, *98*(23), e15987. <https://doi.org/10.1097/MD.00000000000015987>
- Sontag, L. M., & Graber, J. A. (2010). Coping with perceived peer stress: Gender-specific and common pathways to symptoms of psychopathology. *Developmental Psychology*, *46*(6), 1605–1620. <https://doi.org/10.1037/a0020617>
- Sousa, C., Herrenkohl, T. I., Moylan, C. A., Tajima, E. A., Bart Klika, J., Herrenkohl, R. C., & Russo, M. J. (2011). Longitudinal study on the effects of child abuse and children's exposure to domestic violence, parent-child attachments, and antisocial behavior in adolescence. *Journal of Interpersonal Violence*, *26*(1), 111–136. <https://doi.org/10.1177/0886260510362883>
- *Suárez-Relinque, C., Del Moral Arroyo, G., León-Moreno, C., & Evaristo Callejas Jerónimo, J. (2019). Child-to-parent violence: Which parenting style is more protective? A study with Spanish adolescents. *International Journal of Environmental Research and Public Health*, *16*(8), 1320. <https://doi.org/10.3390/ijerph16081320>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Allyn & Bacon.
- Van den Noortgate, W., López-López, J. A., Marín-Martínez, F., & Sánchez-Meca, J. (2013). Three-level meta-analysis of dependent effect sizes. *Behavior Research Methods*, *45*, 576–594. <https://doi.org/10.3758/s13428-012-0261-6>
- Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software*, *36*, 1–48. <https://doi.org/10.18637/jss.v036.i03>
- Vink, R., Goes, A., Doornink, N., Broerse, A., Pannenbakker, F., & van de Zwan, R. (2014). *Huiselijk geweld door kinderen en jongeren tegen hun ouders*. TNO/Movisie. Retrieved from https://www.tno.nl/media/3226/huiselijk_geweld_door_kinderen_jongeren_tegen_hun_ouders.pdf
- Williams, K. M., Wormith, J. S., Bonta, J., & Sitarenios, G. (2017). The use of meta-analysis to compare and select offender risk instruments: A commentary on Singh, Grann, and Fazel (2011). *International Journal of Forensic Mental Health*, *16*(1), 1–15. <https://doi.org/10.1080/14999013.2016.1255280>
- Yeung, H., Chowdhury, N., Malpass, A., & Feder, G. S. (2012). Responding to domestic violence in general practice: A qualitative study on perceptions and experiences. *International Journal of Family Medicine*. <https://doi.org/10.1155/2012/960523>

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