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Relationship Between Adverse Childhood Experiences, Conduct Disorder, and Psychopathy Among Young Offenders in Khyber Pakhtunkhwa

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Abstract: The association between adverse childhood experiences (ACE), conduct disorder (CD), and psychopathy among young offenders in Khyber Pakhtunkhwa, Pakistan, was investigated in the present study. A quantitative, cross-sectional survey design was employed, and data were collected from a sample of 150 young offenders. It was found that ACE exerts a significant impact on the mental health of young offenders, particularly influencing the development of CD and psychopathic traits. Statistical analyses indicated a significant positive correlation between ACE and both CD and psychopathy. Furthermore, ACE was observed to significantly moderate the relationship between CD and psychopathy, suggesting that higher levels of childhood adversity intensify the link between these two psychological conditions. Gender differences were also identified, with male offenders exhibiting significantly higher levels of CD and psychopathy compared to their female counterparts. These findings contribute critical insights into the role of early childhood trauma in the development of antisocial behavior and psychological maladjustment among young offenders in Pakistan. The results underscore the necessity of implementing preventive measures, early interventions, and comprehensive support systems targeting child welfare. Additionally, the study highlights the urgent need for gender-sensitive intervention strategies aimed at reducing crime rates and promoting mental health resilience.

Keywords: Adverse childhood experiences; Conduct disorder; Psychopathy; Childhood trauma; Prevention; Intervention

1. Introduction

ACE, including physical, emotional and sexual abuses, neglect and household dysfunctions, significantly affects an individual's development. Research has demonstrated a strong connection between ACE and long-term chronic disorders, i.e., cardiac arrests, diabetes and other mental health disorders, including depression and anxiety (Felitti et al., 2019). ACE also affects brain development and emotional regulation, leading to psychological issues and maladaptive behaviors that even run in families from generation to generation and creating a cycle of adversity. High-risk individuals are females and ethnic minorities. ACE leads to socio-economic challenges, i.e., difficulties in getting education and employment (Shonkoff et al., 2012).

However, not everyone with ACE has developed negative outcomes. Stable environment, mental health support and trauma-informed care can heal these adverse and negative outcomes (Copeland et al., 2021). The trauma-sensitive approach is considered critical for addressing and recognizing the past trauma, especially in education, healthcare and social services (Felitti et al., 2019).

Prevention and intervention are the two measures for addressing ACE. Preventive measure is a type of public health campaign, aiming to limit ACE and reduce childhood adversity. While intervention is a therapeutic measure to support the affected individual (Hoffman, 2003). As for untreated ACE, intervention and systemic support are substantially emphasized to break the adverse trauma cycle and encourage long-term wellbeing (Henggeler & Schaeffer, 2016).

It is essential to better understand the manifold impact of ACE and create targeted intervention for better policy development. Crucial research is needed to consider cultural, gender and other contextual factors (Bradley & Corwyn, 2002). Trauma-focused therapy and mindfulness are innovative approaches to treat and heal ACE-related trauma. Adverse childhood effects are closely linked to behavior and mental health disorder, including anxiety, depression, substance uses and chronic health condition in both adults and childhood (Silveira & Pereira, 2023). According to some researchers, ACE contributes certain behavioral issues that persist in adulthood, including CD, antisocial behavior and aggression, which frequently co-occur with Attention-Deficit/Hyperactivity Disorder (ADHD) and substance abuse (Frost et al., 2024).

CD is a persistent aggressive and anti-social behavior. CD is found in both children and adults and it is characterized by aggression, rule violation and even property destruction, mostly resulting in social or education difficulties. Major contributors of CD development are substance abuse, family dysfunction and violence (Miller & Lynam, 2001). These negative outcomes may lead to criminal behavior or substance addiction, if proper interventions, including behavior therapy, family therapy and educational support, are not conducted. These are crucial to prevent long-term negative outcomes (Hoffman, 2003). CD is also characterized by psychopathy. Certainly, children display callousness and lack of empathy (Ross & Pelham, 1981). Parental abuse might be considered an early trauma, which can desensitize children emotionally.

If a child is repeatedly exposed to parental abuse, this can impair his/her ability to respond empathically (Frick & Viding, 2009). As a result, this hinders the healthy relationship between the child and his/her parents. Peer influence, family stress and societal stigma are the main factors that exacerbate the effects of ACE and CD (Silveira & Pereira, 2023). For better behavioral symptoms and underlying trauma treatment, a multi-disciplinary approach is needed, involving the psychiatrist, educator and social worker. Use of the multi-disciplinary approach at an early time can reduce long-term impact on education, employment and wellbeing (Henggeler & Schaeffer, 2016).

The severity and progression of CD to psychopathy is influenced by the combination of different factors, including genetic, environmental and neurological factors in adolescence and adulthood (Viding & McCrory, 2012). The hallmarks of psychopathy include impaired emotional regulation and reduced sensitivity. Mal-parenting and early traumatic experiences alter brain regions involved in empathy and decision-making, inducing psychopathic traits. High risks of developing psychopathy are impulsivity and aggression of children (Felitti, 2002).

It is important to understand the link between CD and psychopathy for early intervention. Emotional regulation, empathy, and pro-social behavior are essential factors of psychopathy intervention. Optimistic family dynamics and peer relationship play preventive roles in the likelihood of psychopathic traits (Barican et al., 2022).

The incidence rate of CD is higher in adolescence (5%-9%) than in children (2%-5%). Gender differences exist, it is more prevalent in male than female. Mostly female exhibit higher level of PSTD, depression and anxiety while male showing higher level of ADHD. Prevalence rate is higher in Europe than in Asia, influence by environmental factors i.e. pre-natal issue including maternal smoking, and early sexual activity. Psychological factors also play significant role in the development of CD, including low self-esteem, impulsivity and early victimization (Tesli et al., 2024).

The treatment of CD is significant and avoiding intervention can lead to academic difficulties, strained relationship and criminal involvement. Diagnosis at the initial stage is crucial to properly intervene and prevent it from escalating into a severe stage, i.e., anti-social behavior or personality disorder (ASPD) (Lank, 2024).

Psychopathy is closely related to ASPD, characterized by lack of empathy, manipulativeness, and antisocial behavior (Lynam & Gudonis, 2005). According to neurologists, it is a brain abnormality. Amygdala and prefrontal cortex dysfunction lead to poor emotional regulation and decision-making, resulting in psychopathy (Blair, 2003). Psychopathic subjects have criminal behavior, presenting significant challenges in treatment. Traditional therapeutic approaches treat psychopathy poorly. Therefore, it is crucial to intervene with modern approaches (Frick & Viding, 2009). Researchers have suggested that psychopathy is more prevalent in males and less common in females, manifesting differently (Crick & Zahn Waxler, 2003). This distinction is important for legal and forensic evaluation. Understanding the development of psychopathic traits and the role of early hostile experiences is essential for developing effective intervention strategies (Viding & McCrory, 2012).

This research is particularly relevant in regions like Pakistan, where the link between child abuse, CD, and psychopathy remains underexplored. Early childhood experiences significantly shape an individual's mental health, and addressing child abuse and CD can reduce the risk of psychopathy and associated societal impacts.

Statement of problem:

The intricate relationship between ACE, CD, and psychopathy has sparked growing interest in understanding how early trauma interacts with the development of antisocial behavior. While both CD and psychopathy are associated with disruptive behaviors and disregard for others, the presence of ACE may play a moderating role in shaping the trajectory from CD to psychopathy. This study delves into the nuanced connection between ACE, CD, and psychopathy, exploring how early trauma might amplify or attenuate the expression of psychopathic traits in individuals with CD.

This study aims to:

a) Explore the relationship of ACE, CD and psychopathy among juvenile offenders of Khyber Pakhtunkhwa.

b) Demonstrate the age differences concerning ACE, CD and psychopathy among those juvenile offenders.

2. Methodology

2.1 Research Questions/Hypotheses

a) ACE is significantly related to CD in juvenile offenders.
b) ACE is positively related to psychopathy in juvenile offenders.
c) ACE moderates the relationship between CD and psychopathy among juvenile offenders.
d) Gender has a significant impact on CD and psychopathy among juvenile offenders.

2.2 Research Design

The current study is a quantitative survey based on correlational research. A purposive sampling strategy was used for selecting participants for this study. Moreover, data were analyzed using multiple regression techniques.

2.3 Sample

In this study, 150 offenders were selected through purposive convenient sampling from major cities of Khyber Pakhtunkhwa. Age of participants ranged between 10 and 17 years (M=14.5, SD=4.5). The geographical location and cultural background, predominantly Pashtun ethnic communities with conservative social structures, were considered to contextualize the findings.

2.4 Instruments

To achieve the objectives of this study, three questionnaires were designed, namely the youth report measures for children and adolescents, i.e., Strengths and difficulties questionnaire (SDQ), the ACE questionnaire and the Urdu psychopathy scale (UPS).

a) Demographic sheet
The demographic sheet of this study was developed to get evidence on three demographic variables, namely age, gender and socio-economic status (SES). Participants were asked to provide self-reported responses to items corresponding to each of these demographic indicators.

b) Youth report measures for children and adolescents (SDQ)
SDQ is used to identify the strengths and difficulties of children and adolescents. The scale, consisting of 42 items, is used for behavioral screening of children and adolescents and the items are scored on the Likert scale. Only the youth report sub-scale was used in this study, which consists of 25 items and is scored on a 3-point Likert scale, with 0, 1, and 2 indicating “not true,” “somewhat true,” and “certainly true,” respectively.

c) ACE questionnaire
The ACE questionnaire is used to identify childhood experiences of abuse and neglect. The study posits that childhood trauma and stress early in life, apart from potentially impairing social, emotional, and cognitive development, indicate a higher risk of developing health problems in adulthood. This 12-item scale has dichotomous questions and is marked with 1 (never) to 4 (always).

d) Levenson Self-Report Psychopathy Scale (LSRP)
To assess psychopathy among children and adolescents, the revised version of LSRP was used. The scale consists of 42 items and is scored on a 5-point Likert scale, with 1, 2, 3, 4, and 5 indicating “strongly disagree,” “somewhat disagree,” “nor agree, nor disagree,” “somewhat agree,” and “strongly agree,” respectively. High scores indicate a high level of psychopathy while low scores indicate low level of psychopathy.

2.5 Procedure

The study was carried out with the permission of the department and approval was taken from the Research and Ethics Committee. Purposive sampling technique was used for sample selection. First of all, permission was taken from the participants and their guardians. Then the participants were approached for data collection. They were informed about the purpose and impact of the study. A paper and pencil survey was used for data collection. Verbal 51 consent was taken from the participants. Scales were given to the participants along with necessary instructions

on how to fill them. Completed questionnaires were collected from the participants and gratitude was expressed to them. Confidentially and anonymity of the research participants were maintained. It was assured to participants that their data would be kept confidential and would not be shared with anyone. No incentives were given to the participants for their participation.

2.6 Ethical Considerations

The whole process of the study was completed on the ethical grounds. The tools were administered only after the permission was taken from the authors. Data was collected from those individuals who showed willingness to be a part of study. Detailed and clear information about the purpose and objectives of the study was briefed to the participants before they continued with the measures. All the queries and questions asked by the participants were properly addressed. Moreover, the participants were free to discontinue the study whenever they wanted to do so. Results were reported ethically and data was used only for academic research purpose.

2.7 Data Analysis

The data collected was analyzed using SPSS. Pearson correlation and regression analysis was first applied to the data to see if ACE and CD have any significant impact on psychopathy. Moreover, T-test was applied to examine gender differences regarding ACE, CD and psychopathy. Then, multiple regression analysis and PROCESS Macro were used to see if CD moderates the relation between ACE and psychopathy. Lastly, one-way Analysis of Variance (ANOVA) was applied to signify the differences in ACE scores and CD symptoms across SES groups.

3. Results

The samples for this study consisted of 96 participants, whose demographic characteristics are summarized in Table 1. The samples included both male and female participants. The average age of participants was 16.86 with a standard deviation of 1.81. These demographic details offer a foundational understanding of the sample composition, facilitating further analysis on the impact of ACE, CD, and psychopathy.

Table 1. Descriptive statistics and reliability coefficients

Variable	N	Mean	SD	Minimum	Maximum	Cronbach's α
Gender	150	1.20	0.401	1	2	---
Age	150	16.86	1.81	11	19	0.75
Psychopathy	150	230.51	31.71	153	272	0.82
ACE	150	33.97	3.69	26	46	0.63
CD	150	69.76	8.11	51	87	0.70

Note: "SD" indicates the standard deviation; and "---" indicates not applicable.

Table 2. SES

SES	N	%
Low SES	45	30.0%
Middle SES	75	50.0%
High SES	30	20.0%
Total	150	100%

The participants represent a range of socio-economic backgrounds. As shown in Table 2, based on self-reported parental income and education levels, approximately 30% of the participants were from low-income households, 50% from middle-income households, and 20% from high-income households. SES may play a role in the exposure to ACE, and its potential effects were considered in the interpretation of results.

To find the correlation among the scores, Pearson correlation was conducted on the data, as shown in Figure 1 and Table 3. The result indicates that ACE has a significant positive correlation with psychopathy ($r = 0.54$, $p < 0.01$) which implies that ACE significantly contributes to the symptoms of psychopathy in later years. Similarly, a significant positive correlation ($r = 0.56$, $p < 0.01$) was reported between ACE and CD. Regarding CD and psychopathy, the result indicates a significantly positive correlation ($r = 0.51$, $p < 0.01$), implying that children with CD are significantly prone to psychopathy.

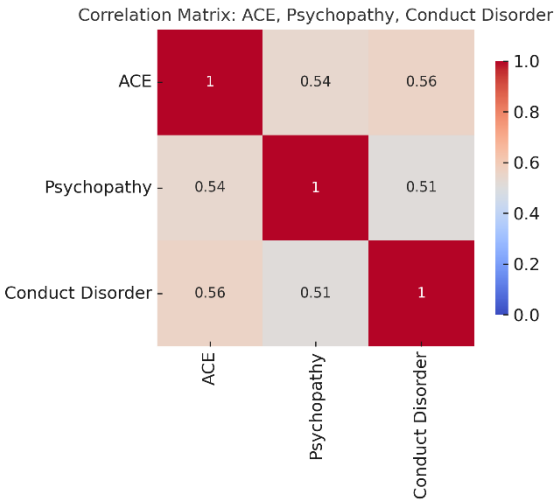

Figure 1. Correlation matrix of ACE, psychopathy, and CD

Table 3. Pearson correlations among research variables

Variable	ACE	Psychopathy	CD
ACE	--	0.54**	0.56 **
Psychopathy	--	--	0.51 **
CD	--	--	--

Note: ** indicates that the correlation is statistically significant at the $p < 0.01$ level.

Table 4. Regression analysis predicting CD from ACE

Predictor	B	SE B	β	t	P
Constant	47.984	1.208	--	39.714	0.000
ACE	-0.001	0.010	-0.001	-0.015	0.988

Note: "B" indicates the unstandardized coefficient; "SE B" indicates the standard error; and "β" indicates the standardized coefficient.

Before examining the reciprocal effect of ACE, it is necessary to find out the robustness of results. For this purpose, regression analysis was carried out on the data to find out the effect of ACE on the independent variable CD and the dependent variable psychopathy. Table 4 provides the results of the regression analysis, examining the influence of ACE on CD. The analysis reveals that ACE does not significantly predict CD in this sample ($B = -0.001$, $p = 0.988$). This suggests that, contrary to the hypothesized effect, ACE alone does not have a statistically significant direct impact on CD within this participant group. These findings highlight the potential need to consider additional moderating or mediating variables that might influence the relationship between ACE and CD. This was explored in subsequent analyses, including the potential role of ACE in moderating the relationship between CD and psychopathy.

Hypothesis H6 examines the moderating role of ACE between CD and psychopathy. Figure 2 and Table 5 illustrate the regression analysis, examining the relationship between ACE and psychopathy. The analysis reveals a statistically significant positive effect of ACE on psychopathy, with a standardized beta coefficient of $B = 0.71$ and a significance level of $p < 0.001$. This finding aligns with the hypothesis that ACE contributes to an increase in psychopathic tendencies. These results suggest that individuals with higher ACE scores are more likely to exhibit psychopathic traits, underscoring the potential impact of early adversity on later personality development. This significant association reinforces the need for early interventions that address ACE-related trauma to mitigate the potential development of psychopathic characteristics.

Figure 2 and Table 6 present the results of the interaction analysis, assessing the moderating effect of ACE on the relationship between CD and psychopathy. The findings reveal that ACE significantly moderates the impact of CD on psychopathy ($B = 0.067$, $p < 0.05$). This indicates that, while high levels of CD independently contribute to psychopathy, the presence of ACE intensifies this relationship, suggesting an amplified pathway from disruptive behaviors to psychopathic traits in individuals with higher ACE scores.

Table 5. Regression analysis predicting psychopathy from ACE

Predictor	B	SE B	β	t	p
Constant	43.606	1.520	--	28.697	< 0.001
ACE	0.194	0.012	0.711	15.775	< 0.001

Note: p > 0.001.

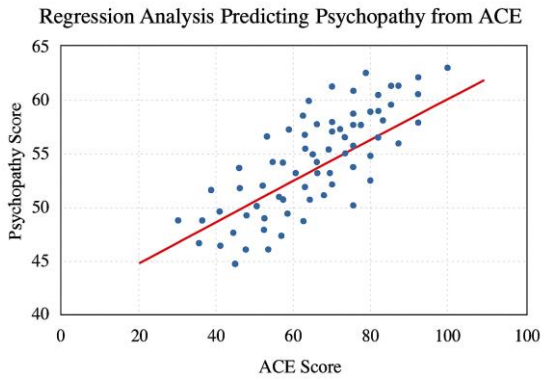

Figure 2. Moderating effect of ACE on CD and psychopathy

Table 6. Moderation analysis: Interaction of ACE and CD predicting psychopathy

Predictor	B	SE B	β	t	p
Constant	65.58	0.39	—	167.96	< 0.001
Conduct Disorder (CD)	-7.22	0.40	-0.535	-18.29	< 0.001
ACE	9.68	0.39	0.718	24.59	< 0.001
CD × ACE Interaction	0.91	0.40	0.067	2.28	0.024

Note: B = unstandardized coefficient; SE B = standard error.

Then gender-based differences were examined on psychopathy and CD. The result in Figure 3 and Table 7 shows that male participants have significantly higher psychopathic tendencies (M = 95.38, SD = 6.46) than female participants (M = 68.11, SD = 6.19) at a p-value less than 0.001. Regarding CD, male participants have higher scores (M = 45.83, SD = 13.02) compared to female participants (M = 36.60, SD =13.03) at a p-value less than 0.001. Lastly, a significantly higher level of ACE (M = 15.18, SD = 2.84) was reported among female participants compared to male participants (M = 12.68, SD = 2.46). The result shows significant differences in male and female levels of psychopathy, CD and ACE at a p-value exceeding 0.001.

As shown in Table 8, one-way ANOVA indicates significant differences in ACE scores and CD symptoms across SES groups, with participants from lower SES backgrounds reporting higher ACE scores, i.e., F (2,147) = 5.21, p = 0.007, and η^2 = 0.07, and higher CD symptoms, i.e., F (2,147) = 3.94, p = 0.022, and η^2 = 0.05. No significant differences were found for psychopathy scores across SES groups.

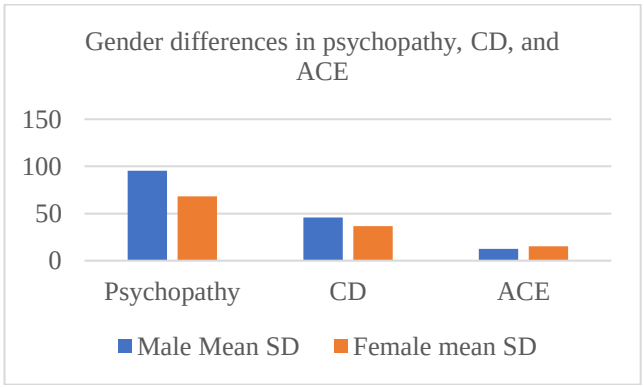

Figure 3. Gender differences in psychopathy, CD, and ACE

Table 7. Independent samples t-tests for gender differences on key variables

Variables	Male Mean SD	Female Mean SD	T (150)	P	95% CI LL	95% CI UL	Cohen's d
Psychopathy	95.38 (6.46)	68.11 (6.19)	4.27	< 0.001	3.89	10.56	0.56
CD	45.83 (13.02)	36.60 (13.03)	4.48	< 0.001	1.45	3.37	0.59
ACE	12.68 (2.46)	15.18 (2.84)	3.59	< 0.001	1.67	2.54	0.57

Note: "95% CI" indicates the 95% confidence interval; "LL" indicates the lower limit; and "UL" indicates the upper limit.

Table 8. One-way ANOVA results for ACE scores, CD symptoms, and psychopathy across SES groups

Dependent Variable	F	p	η^2 (Effect Size)	Interpretation
ACE scores	5.21	0.007	0.07	Significant difference across SES groups
CD scores	3.94	0.022	0.05	Significant
Psychopathy scores	2.13	0.121	0.03	Not significant

4. Discussion

The aim of this study is to explore the relationship between CD and psychopathy and the impact of ACE in young offenders from Khyber Pakhtunkhwa. The result shows significance among ACE, CD and psychopathy. It was found that CD is strongly correlated with psychopathic traits, and could significantly contribute in the development of psychopathy in young offenders. This study emphasizes how early childhood trauma acts as an emerging factor of anti-social behavior and psychopathic traits and provides insight for future intervention strategies.

This study shows positive correlation between ACE and psychopathy. It can be concluded that mal-parenting and early childhood adversity are more likely to exhibit psychopathic traits, aligned with previous results. According to previous reports, early traumatic life experiences are the substantial causes of developing psychopathic traits and anti-social behavior. The findings by Frick and Viding (2009) between ACE and CD ($r = 0.56$, $p < 0.01$) align with the results of this current study, which emphasize that subjects experiencing trauma in childhood may internalize mal-behavior, possibly leading to severe behavior disorder and CD in later years. This study shows the positive correlation ($r = 0.51$, $p < 0.01$) between CD and psychopathy, suggesting that children with conduct-related issues are in high risk of developing psychopathy. This study supports the hypothesis by Frick & Viding (2009) that CD can be a precursor of psychopathy. With the passage of time, behavior like aggression, impulsivity, and callousness is ingrained into psychopathic characteristics.

The key focus of this study is the moderating role of ACE in the relationship between CD and psychopathy. This study reveals a significant regression analysis ($B = 0.711$, $p < 0.001$), suggesting that ACE predicts psychopathy. It emphasizes that early trauma plays a central role in shaping psychopathic traits. The results (Table 6, $B = 0.067$, $p < 0.05$) also reveal the impact of CD in the development of these traits. It is concluded that subjects highly exposed to ACE and bearing CD symptoms are high in risk of developing psychopathy. In other words, ACE exposure and CD are the exacerbating factors of developing psychopathy (Pisano et al., 2017).

These outcomes highlight the importance of ACE in subject suffering with CD in the assessment of psychopathy. Although, CD alone is the strong predictor of developing psychopathy, the presence of ACE intensifies the psychopathic trait development like lack of empathy, emotional detachment, and manipulation. Early assessment and proper intervention of early traumas can reduce the risk of psychopathy development in the children in later years (Bedwell & Hickman, 2022). These findings suggest that early intervention targeting ACE-related trauma could significantly reduce the risk of developing full-blown psychopathy among high-risk youth.

Prevalence of CD and psychopathy among gender differences is another significant aspect of the current study. The study reveals that CD ($M = 45.83 \pm 13.02$ and $F = 36.60 \pm 13.02$) and psychopathy ($M = 95.38 \pm 6.46$, $F = 68.11 \pm 2.46$) are more prevalent among males than females, aligning with previous results. Interestingly, although females reported higher ACE scores, they exhibited lower levels of CD and psychopathy (Lank, 2024; Viding et al., 2005). This may reflect gender-based differences in the manifestation of trauma, with females potentially internalizing adversity through symptoms such as depression or anxiety, rather than externalizing it as aggression.

SES is another important dimension explored. ANOVA reveals significant differences in ACE and CD scores across SES groups, with participants from lower SES backgrounds exhibiting higher ACE and CD scores. These findings align with the ecological models of development, suggesting that economic disadvantage increases the exposure to chronic stressors, abuse, and neglect, thereby elevating the risk for behavioral problems. However, psychopathy scores do not differ significantly across SES groups, indicating that the development of enduring psychopathic traits may involve complex interactions beyond socio-economic conditions alone, possibly including genetic vulnerabilities.

Genetic-environmental interactions should also be considered when interpreting these findings. Although this study did not directly measure genetic influences, Viding et al. (2005) demonstrated that callous-unemotional traits associated with psychopathy show substantial heritability. Environmental factors like ACE may act as triggers or amplifiers for latent genetic predispositions, contributing synergistically to the development of psychopathic traits. Future research should incorporate genetically informed designs to better understand these interactions.

It is concluded that the significant implications of this study are the intervention and prevention strategies in reducing the development of psychopathy in young offenders, the moderating role of ACE, the environment and genetic factors in the development of psychopathy and the role of gender-specific intervention (Viding et al., 2005).

5. Conclusions

This study investigated the relationship among ACE, CD and psychopathy. It was concluded that ACE is a key and central factor in the development of CD and psychopathy. ACE not only develops but also amplifies and exacerbates its effects. ACE influences empathy, family detachment and emotion regulation, which are the key factors in the development of psychopathic traits. The severity of CD and psychopathy in individuals depends on the number of ACE in young offenders. Children exposed to more ACE may develop severe CD or psychopathy while lower exposure might develop mild features of CD and psychopathy. Socio-economic disadvantages further compound these risks, emphasizing the urgent need for early, trauma-informed, and context-sensitive interventions. The study also intersected the role of genetic and environmental interaction with CD and psychopathy. Overall, the study focused on the prevention and intervention of CD and psychopathy. A resilient, personalized and holistic approach to intervention is crucial for hindering the progression of CD to psychopathy.

The following recommendations were made in this study:

- Trauma-informed care practices within juvenile detention centers could be implemented.
- Early intervention programs targeting children at risk could be developed.
- Longitudinal studies could be conducted to track developmental trajectories over time.

Data Availability

The data used to support the research findings are available from the corresponding author upon request.

Conflicts of Interest

The authors declare no conflict of interest.

References

Barican, J. L., Yung, D., Schwartz, C., Zheng, Y., Georgiades, K., & Waddell, C. B. (2022). Prevalence of childhood mental disorders in high-income countries: A systematic review and meta-analysis to inform policymaking. *Evid. Based. Ment. Health, 25*(1), 36-44. https://doi.org/10.1136/ebmental-2021-300277.

Bedwell, S. A., & Hickman, C. (2022). Effects of childhood trauma in psychopathy and response inhibition. *Dev. Psychopathol., 35*(2), 724-729. https://doi.org/10.1017/S0954579421001863.

Blair, R. J. R. (2003). Neurobiological basis of psychopathy. *Br. J. Psychiatry, 182*(1), 5-7. https://doi.org/10.1192/bjp.182.1.5.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annu. Rev. Psychol., 53*(2002), 371-399.

Copeland, W. E., Alaie, I., Jonsson, U., & Shanahan, L. (2021). Associations of childhood and adolescent depression with adult psychiatric and functional outcomes. *J. Am. Acad. Child Adolesc. Psychiatry, 60*(5), 604-611. https://doi.org/10.1016/j.jaac.2020.07.895.

Crick, N. R., & Zahn Waxler, C. (2003). The development of psychopathology in females and males: Current progress and future challenges. *Dev. Psychopathology, 15*(3), 719-742. https://doi.org/10.1017/S095457940300035X.

Felitti, V. J. (2002). The relation between adverse childhood experiences and adult health: Turning gold into lead. *Perm. J., 6*(1), 44-47.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (2019). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *Am. J. Prev. Med., 56*(6), 774-786. https://doi.org/10.1016/j.amepre.2019.04.001.

Frick, P. J. & Viding, E. (2009). Antisocial behavior from a developmental psychopathology perspective. *Dev. Psychopathol., 21*(4), 1111–1131. https://doi.org/10.1017/S0954579409990071.

Frost, A., Collins, A., Chung, E. O., Escobar Carias M. S., Hagaman, A., Gupta, S., Bibi, A., Sikander, S. & Maselko, J. (2024). Trauma exposure among young children in rural Pakistan: Associations with gender, mental health, and cognitive skills. *BMC Psychol.*, *12*(1), 454. https://doi.org/10.1186/s40359-024-01944-x.

Henggeler, S. W. & Schaeffer, C. M. (2016). Multisystemic Therapy®: Clinical overview, outcomes, and implementation research. *Fam. Process, 55*(3), 514-528. https://doi.org/10.1111/famp.12232.

Hoffman, J. S. (2003) World report on violence and health. BMJ Publishing Group Ltd. https://doi.org/10.1136/ip.9.1.93.

Lank, K. (2024). Adverse childhood experiences and effects on delinquency [Mastersthesis]. In *Concordia University, St. Paul*. https://digitalcommons.csp.edu/human-services_masters/7

Lynam, D. R. & Gudonis, L. (2005). The development of psychopathy. *Annu. Rev. Clin. Psychol., 1*(1), 381-407. https://doi.org/10.1146/annurev.clinpsy.1.102803.144019.

Miller, J. D. & Lynam, D. (2001). Structural models of personality and their relation to antisocial behavior: A meta-analytic review. *Criminology, 39*(4), 765-798.

Pisano, S., Muratori, P., Gorga, C., Levantini, V., Iuliano, R., Catone, G., Coppola, G., Milone, A., & Masi, G. (2017). Conduct disorders and psychopathy in children and adolescents: Aetiology, clinical presentation and treatment strategies of callous-unemotional traits. *Ital. J. Pediatr., 43*(1), 1-11. https://doi.org/10.1186/s13052-017-0404-6.

Ross, A. O. & Pelham, W. E. (1981). Child psychopathology. *Annu. Rev. Psychol., 32*, 243 – 278. https://doi.org/10.1146/annurev.ps.32.020181.001331.

Shonkoff, J. P., Garner, A. S., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., Pascoe, J., & Wood, D. L. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*(1), e232–e246. https://doi.org/10.1542/peds.2011-2663.

Silveira, D. & Pereira, H. (2023). The impact of adverse childhood experiences on mental health and suicidal behaviors: A study from Portuguese language countries. *J. Child Adolesc. Trauma, 16*(4), 1041–1052. https://doi.org/10.1007/s40653-023-00540-2.

Tesli, N., Jaholkowski, P., Haukvik, U. K., Jangmo, A., Haram, M., Rokicki, J., Friestad, C., Tielbeek, J. J., Næss, Ø., Skardhamar, T. & et al. (2024)**.** Conduct disorder - a comprehensive exploration of comorbidity patterns, genetic and environmental risk factors. *Psychiatry Res., 331*, 115628. https://doi.org/10.1016/j.psychres.2023.115628.

Viding, E., & McCrory, E. J. (2012). Genetic and neurocognitive contributions to the development of psychopathy. *Dev. Psychopathol., 24*(3), 969–983. https://doi.org/10.1017/S095457941200048X.

Viding, E., Blair, R. J. R., Moffitt, T. E., & Plomin, R. (2005). Evidence for substantial genetic risk for psychopathy in 7-years-olds. *J. Child Psychol. Psychiatry, 46*(6), 592-597. https://doi.org/10.1111/j.1469-7610.2004.00393.x.