

Adverse childhood experiences among clients of juvenile detention centres: Research in Czech Republic

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The issue of educational work with trauma in juvenile detention centres (JDC) is a less explored area in the Czech Republic, even though the literature points to a higher incidence of trauma among children at risk in this target group. The aim of our research was to determine the extent of adverse childhood experiences among young people in detention centres in the Czech Republic. A quantitative research strategy was applied in the research. The results show that more than 90% of the surveyed adolescents living in JDC had more than one adverse childhood experience (captured in the ACE-Q). In light of the findings, it seems important to pay attention to traumatic experience of youth in JDC and to design comprehensive holistic interventions based on the individual needs of the at-risk youth with traumatic experiences.

Introduction

Based on statistics from the Ministry of Education, Youth and Sports, it can be stated that the number of children placed in institutional care in the Czech Republic, including (1) children's homes; (2) children's homes with school; (3) diagnostic institutions; and (4) juvenile detention centres (JDC), is relatively high. At the end of 2022, a total of 6,355 children were living in institutional care, of whom 4,261 were in children's homes, 733 in children's homes with schooling, 381 in diagnostic institutions and 980 in JDC (Department of Education Statistics and analysis of the Ministry of Education, 2023). The statistics also show that more boys than girls are permanently placed in JDC (Table 1).

Table 1: The number of children in JDC in Czech Republic in the last 10 school years

| Year | Total | Boys | Girls | Runaway children included in the total |
|-----------|-------|------|-------|--|
| 2013/2014 | 1146 | 828 | 318 | 161 |
| 2014/2015 | 1081 | 772 | 309 | 153 |
| 015/2016 | 1089 | 749 | 340 | 193 |
| 2016/2017 | 1096 | 719 | 377 | 202 |
| 2017/2018 | 1004 | 665 | 339 | 193 |
| 2018/2019 | 993 | 645 | 348 | 205 |
| 2019/2020 | 1012 | 646 | 366 | 195 |
| 2020/2021 | 1035 | 655 | 380 | 153 |
| 2021/2022 | 923 | 605 | 318 | 182 |
| 2022/2023 | 980 | 648 | 332 | 216 |

Source: compiled by the authors from the available statistics (Department of School Statistics and analyses of the Ministry of Education, 2023)

As seen from Table 1, the total number of children in JDC in the Czech Republic is slowly decreasing, but the number still remains alarming. Despite all the efforts to deinstitutionalise the institutional care of children, this reform tends to re-institutionalise them, i.e., to move children from one type of institutional care to another (e.g., from JDC to children's homes). Thus, the total number of children in institutional care is not decreasing.

According to the existing research (Modrowski, et al, 2021; April et al., 2023; Williams-Butler, et al., 2023;), children growing up in institutional care often have very traumatic experiences that should be professionally managed to prevent exacerbating their trauma or unintentionally retraumatising them. In the Czech Republic, there is still no research dealing with the level of traumatisation of adolescents in residential educational institutions. In view of the above, in the present study we focused on measuring the rate of traumatisation in adolescents living in educational institutions, i.e., in facilities designed for children over 15 years of age with severe behavioural disorders who have been ordered to institutional or protective education.

It is on the basis of the results obtained that we will be able to point out possible links between the experience of childhood trauma and the occurrence of problem behaviour. We can then look for ways to effectively support these adolescents using social and educational instruments and interventions.

Recent international research documents a disproportionately high number of traumatic experiences among adolescents placed in educational institution. Thus, this is one of the most affected groups of the population (Zelchoski et al., 2020; Baetz et al., 2021). The prevalence of adverse childhood experience in this target group has led to international research on the impact of childhood trauma on future life. Research has shown that exposure to childhood trauma increases adolescents' risk of future problematic behaviour (Bargeman, Smith & Wekerle, 2021; Murphy et al., 2016).

At this point, it should be noted that many studies highlight the fact that traumatic experience may not only come from the past but may also originate in the JDC setting (April, et al., 2023; Ismayilova; Branson, et al., 2017). Being in an institutional setting often creates traumatic experience. Children who appear to be "combative and hostile" are often the ones who need the most help (Levenson & Willis, 2019). Considering the above, it can be argued that the targeted social work with trauma in an institution is an essential part of the educational process leading to "healing".

Theoretical background

Adverse childhood experiences

In recent years, there has been a growing interest in the study of adverse childhood experiences (ACE), as it a matter that can have a significant impact on human health. Another reason is that an association between ACE and behavioural problems in youth has been proven (Boulliear & Blair, 2018; Wolff et al., 2018). Adverse childhood

experiences (ACE) can be broadly defined as traumatic events from childhood that have a significant impact on a person's health. An early study focusing on ACE was by Felitti et al. (1998), who pointed out that in the USA, more than 60% of respondents had at least one ACE (Merrick et al., 2018). Other studies have reported prevalence rates ranging from 46-66% in adults (Hughes et al., 2019) and prevalence rates ranging from 75-85% in adolescents (Afifi et al., 2020).

ACE are a scale for measuring negative experiences up to the age of 18. The initial version of the questionnaire consisted of seven questions covering the areas of (1) physical, (2) verbal, and (3) sexual abuse, and dysfunction in the home including (4) domestic violence, (5) substance abuse, (6) mental illness, and (7) criminal conduct in the family. Studies published in later years added the areas of (8) emotional neglect, (9) physical neglect, and (10) parental isolation (Felitti et al., 1998; Petrucelli, Davis & Berman, 2019).

The documented prevalence of childhood trauma can be found in the international literature that has been dealing with trauma over the past 20 years. Research reports that 85-93% of adolescents in the social care system have experienced trauma, and up to 90% have had at least one experience of trauma (Bargeman, Smith & Wekerle, 2021; Malvaso et al., 2022b). The most reported adverse childhood experience is divorce or isolation from a loved one (Crouch et al., 2019). Many studies have then concluded that the ACE impacts on problem behaviour and substance abuse later in adulthood (Lee & Chen, 2017; Chung et al., 2010). There appears to be an association between higher ACE scores in adolescents and a greater tendency to aggressive behaviour and school failure. Although existing research indicates that four or more ACEs are likely to be worse than one ACE, there is limited information on which combination of ACEs is considered the most harmful (Wolff et al., 2018). On the other hand, this statement cannot be generalised, as experience with ACE does not necessarily imply having a predisposition to criminal behaviour (Malvaso et al., 2022b).

Focusing on gender, available international research shows that men and women have a similar prevalence of ACE. The differences in responses are in the areas of sexual abuse, substance abuse questions and mental illness in the home, which are more commonly experienced by women compared to men. Men, on the other hand, were more likely to report experience of verbal assault (Lee & Chen, 2017).

As some studies have reported (Levenson & Willis, 2019; Levenson & Grady, 2016), many offenders were much abused during their childhood and adolescence and lived in dysfunctional family environments, which explains that people living in residential care have much higher levels of adverse childhood experiences (ACE) than the general population.

Hardy (2020) pointed out that many young people are considered victims because they were exposed to many traumatic events in the past. However, it is important to realise that even their current situation - living in institutional care - can increase the level of traumatising. Institutionalisation is perceived by young adults as an intrusion into their lives that creates feelings of loss and often has an impact on their emotional development.

Thus, young people living in institutional care are 'forced' to accelerate their transition to adulthood, according to research conducted in the Netherlands (Mota & Matos, 2015; Bramsen et al., 2019).

Problematic behaviour in the context of trauma

Viewing a behavioural problem through trauma does not excuse "crime" but seeks to understand how behaviour develops and subsequently forms strategies that can improve the results in the area of recidivism and reintegration (Levenson & Willis, 2019). Workers in institutions dealing with children and young people are aware of the fact that the behaviour of a child or young person can sometimes be misunderstood and subsequently misdiagnosed (Bargeman, Smith & Wekerle, 2021).

A deeper understanding of the relationship between trauma and delinquency (experienced by most adolescents living in educational institutions) should be achieved using trauma assessment methods. Thus, working with trauma should become part of everyday professional practice in JDC and other residential facilities for children and youth. Indeed, research shows that people who have experienced trauma use health and social services far more frequently than those who have no experience of trauma (Zelechowski et al., 2020; Boel-Studt et al., 2022). Therefore, it is appropriate to emphasise the importance of staff involvement in trauma training when addressing ACE in youth. We know that juveniles who experience ACE often come into contact with the court system and it is deemed appropriate for professionals to have a more detailed understanding of the factors that impact ACE. Another way to do this is to engage them in social skills training (Yohros, A., 2023; Lacey & Minnis, 2020).

Trauma-experienced adolescents make up a substantial proportion of the institutional care client population, with research uncovering some common factors in their histories. These tend to include living with a family that has a history of criminal activity or domestic violence, low verbal IQ, or poor school performance (Joiner & Buttel, 2018). A child's transition from home to an institutional setting can be another traumatic issue, as the institutional care environment and the people in it are unknown to the child (Matoušek, 2019). Young people getting into institutional care facilities experience a sense of danger resulting from unfamiliar surroundings, helplessness, and confusion.

In addition, available research (Pickens, 2016; Matoušek, 2019) shows that most of them are placed in facilities that are far from their homes; the children are not given adequate explanation about why they are leaving; contact with their families is only partially allowed; and their siblings are often placed in other facilities. Although the victims of trauma are not to blame for their victimisation, they bear the brunt of its consequences (Rus et al., 2017; Joiner & Buttel, 2018). Moreover, as some research has found (Fischer et al., 2016; Gearing et al., 2015), those taking care of adolescents in institutional care sometimes tend to underestimate their traumatic experiences. Thus, systematic professional work with trauma in institutional facilities appears to be the solution. To be effective, this must be carried out by trained professionals. In this context, the trauma-informed approach (hereinafter referred to as "TIA") can be used by a multidisciplinary

team working in educational institutions. In light of the findings to date, it is known that most staff in facilities for youth with ACE experience lack information about the impact of childhood trauma on individuals. For these reasons, it is recommended that staff receive training in the following areas: (1) the impact of trauma on juveniles' behaviour; (2) handling reactions and behaviour of juveniles; (3) strategies for coping with secondary trauma; and (4) compassion fatigue among staff (Zettler, 2021; Olafson et al., 2018).

Trauma-informed practice in juvenile detention centres

Within TIA, issues are viewed in the context of the client's experience and their active involvement in positive change is desired (Levenson, 2017; Levenson & Willis, 2019; SAMHSA, 2013). One of the goals of TIA is to avoid re-traumatisation by creating a safe space, emphasising honesty, and striving for positive change (Levenson, 2017). TIA helps to maximise the likelihood that JDC clients can learn to understand, apply, and utilise elements of treatment in their lives, which reduces the risk of their relapse (Levenson & Willis, 2019). The concept of TIA is constantly evolving, but even with the growing number of empirical studies examining its effectiveness in addressing childhood trauma, it is important to highlight its inconsistency and fragmentation (Bargeman, Smith & Wekerle, 2021).

One of the unanswered questions in JDC is whether (and how) the staff understand trauma screening in young adolescents and whether they have received training, or whether they have difficulty talking to adolescents about trauma and responding effectively to these topics (Zelechowski et al., 2020).

A deeper understanding of the relationship between trauma and delinquency (experienced by most adolescents living in educational institutions) should be achieved using trauma assessment methods. Thus, working with trauma should become part of everyday professional practice in JDC and other residential facilities for children and youth. When providing prevention and intervention services, we consider it important to know which types of ACE an individual has been exposed to. Interventions provided to those with a history of sexual abuse are likely to be different from those targeting substance misuse at home (Wolff et al., 2018).

Trauma-experienced adolescents make up a substantial proportion of the institutional care client population, with research uncovering some common factors in their histories. These tend to include living with a family that has a history of criminal activity or domestic violence, low verbal IQ, or poor school performance (Joiner & Buttel, 2018). Therefore, understanding how ACEs influence recidivism in justice-involved youth has proven to be crucial as it is a significant factor in setting up criminal behaviour prevention interventions (Yohros, A., 2023; Kowalski, 2019). A child's transition from home to an institutional setting can be another traumatic issue, as the institutional care environment and the people in it are unknown to the child (Matoušek, 2019). Young people getting into institutional care facilities experience a sense of danger resulting from unfamiliar surroundings, helplessness, and confusion.

Codes of ethics for the helping professions place a strong emphasis on respect and dignity of all persons and the obligation to avoid labelling (Levenson & Willis, 2019). Dierkhising et al. (2021) pointed out that the implementation of the trauma-informed approach in JDC settings leads to a reduction in the psychological burden of youth and an improvement in the coping with problem behaviour. At the same time, research findings also point to shortcomings that should be addressed by researchers in the future.

Research methods

Research problem, research aim and hypotheses

In the Czech Republic, there has been no research focused primarily on exploring related life events in adolescents living in educational institutions. So, the present research is the first of its kind in this area. There was one study aimed at measuring ACE conducted in the Czech Republic in 2013 by Velemínský et al., but it was aimed at first and second year undergraduate students in non-medical disciplines. A random sample of 1760 students, 506 males and 1254 females, average age was 20.4 years, also randomly selected from five Czech universities, participated in the study (Velemínský et al., 2020).

The main aim of the present research was to determine the level of traumatisation (traumatic experience) among adolescents living in juvenile detention centres in the Czech Republic. A further aim of the research was to analyse the correlations between the 10 ACE items under study. Considering the research problem and research objective, we formulated the following hypotheses:

1. Trauma rates (total ACE scores) for adolescents living in a residential treatment facility will vary by gender.
2. Correlations among ACE items will vary by gender.

These are based on previous international findings highlighting differences in ACE scores between girls and boys (e.g., Jones et al., 2022).

Research method

For the purpose of this study, a questionnaire in the Czech language was developed including ten questions focusing on adverse childhood experiences (ACE). Respondents answered questions broken down into three areas: (1) abuse, (2) neglect, and (3) family dysfunction in the form of "yes" and "no" (see Table 3). The questionnaire explored whether the respondents had experienced any of the 10 situations presented by a parent or other adults in their household during their lifetime (e.g., humiliation, slapping, lack of support, lack of food, parental divorce, one parent's problems with alcohol or drugs, incarceration). The questions were derived from the *ACE questionnaire for adolescents CYW ACE-Q Teen SR* (see sample items in English in Appendix A). After consultation with the Center for Youth Wellness, the questionnaire we used did not include some types of adverse childhood experiences (such as questions focusing on the death of a parent, homelessness, or community violence).

The statistical analysis of the data was processed using the IBM program *SPSS 26*, which was used for the statistical evaluation of the data, and *Excel*, through which the data obtained in paper form were transcribed into an electronic version using codes. The completed question with the answer "yes" was coded as a variable marked with the number "1", the answer "no" was coded as "2". In case the answer to the question was absent or incorrect, i.e., the respondent gave both options, the questionnaire was discarded.

We first summed the total score of the ACE and then categorised the results by the number of positive responses (0, 1, 2, 3, and 4 or more) into five groups. In the second step, we performed a descriptive analysis of the data to determine the prevalence of each response, focusing on frequency and gender. Finally, we investigated whether and to what extent the ACE items correlated with each other. To do this, we used Kendall's correlation coefficient, which is suitable for binary variables (yes/no type).

The research sample and data collection

The survey was conducted in juvenile detention centres in the Czech Republic during the period of 10/2022 to 02/2023. The respondents were adolescents aged 15-18 years. They were contacted through juvenile detention centres in the Czech Republic (25 institutions in total).

Prior to conducting the research, the child's key worker and the adolescent (15-18 years) were briefed on the purpose of the research, the data collection procedure, and the voluntary nature of participating in the research. If the respondents were willing to participate in the research, they were given a paper form of the questionnaire, and the method of completion was explained to them. The paper questionnaires were completed by respondents with an education officer or researcher present. During their assisted completion, emphasis was placed on the respondent's correct understanding of the questions.

Out of the total number of juveniles placed in correctional institutions at the time of the research (N=980), 216 were runaways. Thus, a total of 764 potential respondents were contacted. From them, 346 completed questionnaires were collected, out of which 27 had to be discarded due to missing answers. Thus we worked with a total of 319 questionnaires within the framework of the conducted analyses. The gender distribution of respondents is shown in Table 2.

Ethical principles of the research

The final form of the questionnaire was developed with the approval of Karissa M. Lockett (Director of the Youth Health Center) and the approval of the main author of the Czech publication *What is ACE?*, Petra Winnette. The research design was approved by the Ethics Committee of the Faculty of Social Studies (FSS) of the University of Ostrava. The questionnaires were anonymous, participation in the research was voluntary, and respondents were free to withdraw from participation at any time.

Table 2: Composition of respondents by gender (N=319)

| | Number | Percentage |
|-------|--------|------------|
| Women | 75 | 21.7 |
| Men | 244 | 78.3 |

Source: Compiled by the authors based on their own research, 2023

Results

Part one: Descriptive data analysis

Table 3 presents the frequency of experiences of adolescents living in JDC (disaggregated by gender) with individual adverse experiences.

Table 3: Prevalence of adverse childhood experiences among persons living in JDC in the Czech Republic (N=319)

| | | Adverse childhood experiences | | | | | |
|------------------------------|-------------------------------------|-------------------------------|--------|-------|-------|-------|-------|
| | | Yes | | | No | | |
| | | Boys | Girls | Total | Boys | Girls | Total |
| I. Abuse | 1. Emotional | 102 | 43 | 145 | 142 | 32 | 174 |
| | | 32.0% | 13.5% | 45.5% | 44.5% | 10.0% | 55.5% |
| | 2. Physical | 106 | 32 | 138 | 138 | 43 | 181 |
| | | 33.2% | 10.0% | 43.2% | 43.3% | 13.5% | 56.8% |
| | 3. Sexual | 48 | 13 | 61 | 196 | 62 | 258 |
| | | 15.0% | 4.1% | 19.1% | 61.4% | 19.5% | 80.9% |
| II. Neglect | 4. Emotional | 96 | 46 | 142 | 148 | 29 | 177 |
| | | 30.1% | 14.4% | 44.5% | 45.4% | 10.1% | 55.5% |
| | 5. Physical | 51 | 22 | 73 | 193 | 53 | 246 |
| | | 16.0% | 6.9% | 22.9% | 60.5% | 16.6% | 77.1% |
| III. Dysfunction in the home | 6. Divorce or separation of parents | 135 | 58 | 193 | 105 | 17 | 122 |
| | | 42.3% | 18.2% | 60.5% | 32.9% | 6.6% | 39.5% |
| | 7. Violent treatment of the mother | 97 | 34 | 131 | 147 | 41 | 188 |
| | | 30.4% | 10.7% | 41.1% | 46.8% | 12.8% | 59.6% |
| | 8. Substance abuse in the home | 142 | 51 | 193 | 02 | 24 | 126 |
| | 44.5% | 16.0% | 60.5% | 32.0% | 7.5% | 39.5% | |
| | 9. Mental illness in the home | 82 | 29 | 111 | 162 | 46 | 208 |
| | | 25.7% | (9.1%) | 34.8% | 50.8% | 14.4% | 65.2% |
| | 10. Imprisoned household member | 141 | 43 | 184 | 103 | 32 | 135 |
| | | 44.2% | 13.5% | 57.7% | 32.3% | 12.0% | 44.3% |

Source: compiled by the authors based on their own research, 2023

As shown in Table 3, the results of our study indicate a high rate of adverse childhood experiences among adolescents living in educational institutions. More than 40% of respondents reported experiences of emotional neglect and physical and emotional abuse. Nearly 60% of adolescents living in JDC had experienced parental divorce or separation, substance abuse in the home, and an imprisoned household member, which are items in the domain of household dysfunction.

The results of our research are consistent with the research conducted in Serbia by Kostic et al. (2019) in that girls have a higher prevalence of emotional neglect than boys. 46 out of 75 girls surveyed have this experience. In contrast to the Serbian study, our research found a higher prevalence of adolescents living in JDC in the areas of emotional neglect (44.5% compared to 36.7% in Serbia) and sexual abuse (19.1% compared to 4.3% in the Serbian study). In line with our results, the Serbian study indicated that boys are more likely to be victims in the areas of physical and psychological abuse.

Research conducted by Lee & Chen (2017) in the USA indicated that females and males have similar prevalence of adverse childhood experiences, with emotional abuse (33%), parental separation or divorce (22%), and substance abuse in the home (21%) being the most commonly recorded adverse experiences. The results obtained from our research compared to this study indicate significantly higher adverse experiences of Czech adolescents living in educational institutions (45.5% have experienced emotional abuse, almost 60.5% experienced parental divorce or separation, and 60.5% experienced substance abuse in the home).

In Table 4, we present a summary of the number of adverse childhood experiences, which we divided into five categories (column 1) according to the number of adverse childhood experiences (ACE).

Table 4: Number of ACEs in adolescents living in JDC by gender

| Number of ACEs | Boys | Girls | Total |
|----------------|------|-------|-------|
| 0 (none) | 20 | 0 | 20 |
| 1 | 30 | 3 | 33 |
| 2 | 30 | 11 | 41 |
| 3 | 25 | 9 | 34 |
| 4 or more | 139 | 52 | 191 |
| Total | 244 | 75 | 319 |

Source: compiled by the authors based on their own research, 2023

As Table 4 shows, almost 60% of adolescents living in the Czech Republic in JDC have four or more ACE. A total of 139 boys and 52 girls out of 319 respondents reported that. More than one ACE was reported by 299 adolescents, which is almost 94%, with a higher frequency reported by girls than boys.

In comparison with our results, Merrick et al. (2018) found that in the US population more than 60% of respondents had at least one ACE. In Australia, Malvaso et al. (2022a) found that up to 92% of participants had experienced one ACE, which is close to our results. Fischer et al. (2016) found that more than 80% of all respondents had experienced at least one traumatic experience, with more traumatic experiences being among girls than boys.

Font and Maguire-Jack (2016) and Velemínský et al. (2020) provided a breakdown of the threshold number of ACE, stating that four or more ACE present high risk. This study found that nearly 60% of all respondents had experienced four or more ACE. It is also

evident from our research results that girls are the group at a higher risk of having more experience with ACE than boys, as every girl had at least one experience with ACE, with nearly 70% of them having four or more ACE.

Based on the results, it can be concluded that the number of adverse childhood experiences (as assessed by the number of "yes" responses) varied by gender. It was found that almost 70% of girls have 4 or more adverse childhood experiences compared to boys, with 57% having 4 or more adverse experiences. There are also differences in the case of "no experience of ACE", with girls in JDC always having at least one adverse experience, compared to boys, of whom 8% confirmed no experience.

Part two: Correlation analysis of data

We followed up the descriptive analysis with a correlation analysis to determine whether there were associations between variables (ACE items) and whether these differed by gender. To assess whether there are relationships between the variables, we used the Kendall correlation coefficient (Kendall tau b), which takes values from -1 to 1. We rely on the de Vaus classification (2002) to interpret the values obtained.

Based on the correlation analysis performed, it was found that positive and neutral correlations are most commonly found between the ACE items, meaning that in the case of a positive correlation, there is a linear relationship between the variables (x, y) and in the case of a neutral correlation, it can be stated that there is no relationship. In the analysis, we looked at (1) the correlations between the ACE items on the entire sample (see Appendix B) and (2) the correlations between the ACE items by gender (see Appendix C and Appendix D).

In the overall data set, the strongest positive relationship was found between emotional and psychological abuse ($t_b = 0.550$ - see Table 5). This suggests that the experience of emotional and psychological abuse is inextricably linked in JDC clients. Table 5 captures additional moderate to significant correlations between the items.

Table 5: Correlations (moderate to significant correlations) between variables (ACE items) for youth living in JDC without gender differentiation.

| Correlation relationships between variables | | |
|---|---------------------------------|-------------------------|
| Variable x | Variable y | Strength of correlation |
| Emotional abuse | Psychological abuse | 0.550 |
| Emotional neglect | Violent treatment of the mother | 0.377 |
| | Mental illness in the home | 0.364 |
| Violent treatment of the mother | Substance abuse in the home | 0.375 |
| Emotional neglect | Emotional abuse | 0.348 |

Source: compiled by the authors based on their own research, 2023

Other moderate to significant correlations include emotional abuse and substance abuse in the home ($t_b = 0.338$); and emotional neglect and mental illness in the home ($t_b = 0.326$) - see Appendix B.

After conducting an analysis focusing on boys in JDC, we found that there were only positive correlations among the ACE items. The strongest correlation was identified in the areas of emotional abuse and physical abuse. Based on the data, it can be said that boys experience physical abuse along with emotional abuse. Further, additional moderate positive correlations were found in boys for each experience (see Table 6).

Table 6: Relationships (moderate to significant correlations) among variables (ACE items) in boys living in JDC

| Correlations among variables - boys | | |
|-------------------------------------|---------------------------------|-------------------------|
| Variable x | Variable y | Strength of correlation |
| Emotional abuse | Physical abuse | 0.565 |
| | Mental illness in the home | 0.417 |
| | Violent treatment of the mother | 0.364 |
| Violent treatment of the mother | Substance abuse in the home | 0.400 |
| Emotional neglect | Mental illness in the home | 0.368 |

Source: compiled by the authors based on their own research, 2023

Positive, but weaker, correlations were also found for violent treatment of the mother and (1) sexual abuse ($t_b = 0.335$); (2) physical abuse ($t_b = 0.336$) and emotional abuse and emotional neglect ($t_b = 0.321$).

Based on the results obtained from the correlation analysis focusing on the individual items of the ACE in girls, it can be noted that there are no relationships between some variables, e.g., substance abuse in the home and mental illness in the home ($t_b = 0.016$); sexual abuse and divorce or separation of parents ($t_b = 0.080$), or negative low correlations, e.g., between the variables of emotional neglect and imprisoned household member ($t_b = -0.187$). In contrast, a significant, even very strong positive correlation is found between the variables emotional abuse and physical abuse (see Table 7).

Table 7: Relationships (moderate to significant correlations) among variables (ACE items) in girls living in JDC

| Correlations among variables - girls | | |
|--------------------------------------|---------------------------------|-------------------------|
| Variable x | Variable y | Strength of correlation |
| Emotional abuse | Physical abuse | 0.526 |
| | Violent treatment of the mother | 0.407 |
| | Emotional neglect | 0.367 |
| Substance abuse in the home | Physical neglect | 0.379 |
| | Physical abuse | 0.303 |
| Violent treatment of the mother | Physical abuse | 0.352 |

Source: compiled by the authors based on their own research, 2023

In relation to the results, it can be concluded that the correlations among the ACE measured items vary by gender.

Discussion

The present study focused exclusively on children (adolescent age, 15-18 years) living in Juvenile Detention Centres in the Czech Republic. The data were obtained from 43% of the children who were living in JDC at the time of the survey. The results showed that more than 10% of the individuals had at least one traumatic experience in educational institution. If we accept the assertion that four or more ACE are considered high risk (Font & Maguire Jack, 2016), the results of our study are alarming as almost 60% of all children in JDC have four or more ACE. This includes 52 girls out of 75 respondents, i.e., almost 70%, and 139 boys out of 244 respondents, i.e., 57%.

In light of the results obtained, working with trauma-experienced adolescents in JDC appears to be a necessary part of educational and social work. As a rule, educational problems that may be related to previous traumatic experiences in childhood are dealt with in the setting of educational institutions. Therefore, it is necessary to identify these and then work with their processing and avoiding re-traumatisation. This may not be a 'personality disorder' of the adolescents, as it may seem at first sight, but a consequence of their experience of a traumatic situation or environment and their subsequent defensive reaction. It is worth recalling that research studies show that traumatic experience need not be only from the past but can also be increased in the setting of educational institutions. These institutions are an unfamiliar environment for young people, in which they are 'isolated' for a period of time from their networks of natural relationships and bonds, which can have a negative impact on their perception of the world.

Levenson (2017) and Levenson & Willis (2019) found that children in JDC most often experience emotional abuse, parental divorce/separation, alcohol/drug abuse in the family, and an imprisoned household member. Consistent with their results, our findings showed an alarming rate of adolescents in Czech JDC (more than 60%) having experienced alcohol/drug abuse in the household and parental divorce/separation. More than 50% also had experienced an imprisoned household member. More than 40% had experienced emotional abuse and neglect and physical abuse. This opens up a new area for the JDC staff that needs to be emphasised when setting up individual support and care plans. Professionals in JDC should always assess the level of traumatisation among the at-risk youth and set support measures based on the needs of children living in educational institutions.

A correlation analysis was used to test the association among the ACE. There was a positive linear relationship between the experience of abuse and neglect. Then, for both boys and girls, the experiences of emotional and physical abuse correlated strongly.

As part of individual support, it is appropriate to work with the child's life story and history. While most of the "problems" arise before the child gets to educational institutions, it is known from the previous research that even the stay in JDC is perceived by children as an intervention in their lives. This evokes feelings of loss and often has an impact on emotional development as the at-risk youth are forced to accelerate their transition to adulthood (Mota & Matos, 2015; Bramsen et al., 2019).

Considering the results of the research conducted and the existing knowledge, JDC professional workers dealing with individuals who have experienced crime should take into account all aspects that play a significant role in this matter (Jamir Singh & Azman, 2020). They should also respect and advocate for their rights and emphasise the autonomous decision-making of these individuals. It is evident that adverse childhood experiences have significant impacts on children and their future, so the area of working with trauma should not be underestimated. The next direction of our research activities could be a comparative study dealing with ACE in children living in JDC in selected European countries. This would help us to gain a deeper understanding of the relationship between institutional care and ACE in youth with behavioural problems. Only through scientific knowledge we can address issues related to childhood trauma in a timely and comprehensive manner and suggest effective interventions.

Limitations

Within the research conducted and the methods used, the authors perceive some limitations of the results obtained: (1) this is a study that deals with ACE through questions that do not provide a deeper understanding of the lived experience; (2) there is no information on the significance and time when the individual had the experience. A further limitation was that the nature of the questions could have led to subjective, or incorrect, assessments of the experienced situation - this was countered through assisted completion of the questionnaire.

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Appendix A: Sample questions

From ACE questionnaire for adolescents CYW ACE-Q Teen SR

Participants were asked to count and record the number of statements that applied to them.

Section 1. At any point since you were born ...

- Your parents or guardians were separated or divorced
- You lived with a household member who served time in jail or prison
- You lived with a household member who was depressed, mentally ill or attempted suicide

Section 2. At any point since you were born ...

- You have been in foster care
- You have experienced harassment or bullying at school

Source: Center for Youth Wellness (2015) (copies may be available online from a number of sources, for example at:

<https://divisionsbc.ca/sites/default/files/inline-files/cyw%20ace-q%20teen%20sr.pdf>

<https://njaap.org/wp-content/uploads/2019/02/Healthy-Spaces-Electronic-Binder.pdf> page 55)

Appendix B: Correlation analysis of ACEs in children in JDC

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | Emotional abuse | | 0.550 | 0.261 | 0.348 | 0.192 | 0.158 | 0.377 | 0.338 | 0.364 | 0.183 |
| 2 | Physical abuse | 0.550 | | 0.139 | 0.275 | 0.232 | 0.058 | 0.339 | 0.291 | 0.279 | 0.108 |
| 3 | Sexual abuse | 0.261 | 0.139 | | 0.062 | 0.172 | 0.099 | 0.275 | 0.181 | 0.264 | 0.191 |
| 4 | Emotional neglect | 0.348 | 0.275 | 0.062 | | 0.143 | 0.143 | 0.201 | 0.208 | 0.326 | 0.091 |
| 5 | Physical neglect | 0.192 | 0.232 | 0.172 | 0.143 | | 0.074 | 0.243 | 0.272 | 0.197 | 0.104 |
| 6 | Divorce or separation of parents | 0.158 | 0.058 | 0.099 | 0.143 | 0.074 | | 0.218 | 0.095 | 0.038 | 0.113 |
| 7 | Violent treatment of the mother | 0.377 | 0.339 | 0.275 | 0.201 | 0.243 | 0.218 | | 0.375 | 0.206 | 0.238 |
| 8 | Substance abuse in the home | 0.338 | 0.291 | 0.181 | 0.208 | 0.272 | 0.095 | 0.375 | | 0.227 | 0.203 |
| 9 | Mental illness in the home | 0.364 | 0.279 | 0.264 | 0.326 | 0.197 | 0.038 | 0.206 | 0.227 | | 0.133 |
| 10 | Imprisoned household member | 0.183 | 0.108 | 0.191 | 0.091 | 0.104 | 0.113 | 0.238 | 0.203 | 0.133 | |

Appendix C: Correlation analysis of ACEs in boys in JDC

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 Emotional abuse | | 0.565 | 0.291 | 0.321 | 0.198 | 0.110 | 0.364 | 0.348 | 0.417 | 0.236 |
| 2 Physical abuse | 0.565 | | 0.149 | 0.293 | 0.221 | 0.089 | 0.336 | 0.290 | 0.287 | 0.130 |
| 3 Sexual abuse | 0.291 | 0.149 | | 0.045 | 0.253 | 0.113 | 0.335 | 0.210 | 0.259 | 0.256 |
| 4 Emotional neglect | 0.321 | 0.293 | 0.045 | | 0.205 | 0.066 | 0.220 | 0.274 | 0.368 | 0.179 |
| 5 Physical neglect | 0.198 | 0.221 | 0.253 | 0.205 | | 0.056 | 0.241 | 0.231 | 0.232 | 0.133 |
| 6 Divorce or separation of parents | 0.110 | 0.089 | 0.113 | 0.066 | 0.056 | | 0.225 | 0.091 | 0.046 | 0.167 |
| 7 Violent treatment of the mother | 0.364 | 0.336 | 0.335 | 0.220 | 0.241 | 0.225 | | 0.400 | 0.255 | 0.236 |
| 8 Substance abuse in the home | 0.348 | 0.290 | 0.210 | 0.274 | 0.231 | 0.091 | 0.400 | | 0.286 | 0.285 |
| 9 Mental illness in the home | 0.417 | 0.287 | 0.259 | 0.368 | 0.232 | 0.046 | 0.255 | 0.286 | | 0.169 |
| 10 Imprisoned household member | 0.236 | 0.130 | 0.256 | 0.179 | 0.133 | 0.167 | 0.236 | 0.285 | 0.169 | |

Appendix D: Correlation analysis of ACEs in girls in JDC

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------------------------------------|-------|--------|--------|--------|--------|--------|-------|--------|--------|--------|
| 1 Emotional abuse | | 0.526 | 0.181 | 0.367 | 0.141 | 0.241 | 0.407 | 0.275 | 0.187 | 0.019 |
| 2 Physical abuse | 0.526 | | 0.104 | 0.242 | 0.273 | -0.048 | 0.352 | 0.303 | 0.256 | 0.036 |
| 3 Sexual abuse | 0.181 | 0.104 | | 0.147 | -0.063 | 0.080 | 0.078 | 0.088 | 0.287 | -0.032 |
| 4 Emotional neglect | 0.367 | 0.242 | 0.147 | | -0.090 | 0.289 | 0.118 | -0.075 | 0.181 | -0.187 |
| 5 Physical neglect | 0.141 | 0.273 | -0.063 | -0.090 | | 0.069 | 0.237 | 0.379 | 0.090 | 0.023 |
| 6 Divorce or separation of parents | 0.241 | -0.048 | 0.080 | 0.289 | 0.069 | | 0.173 | 0.038 | -0.028 | -0.081 |
| 7 Violent treatment of the mother | 0.407 | 0.352 | 0.078 | 0.118 | 0.237 | 0.173 | | 0.280 | 0.047 | 0.244 |
| 8 Substance abuse in the home | 0.275 | 0.303 | 0.088 | -0.075 | 0.379 | 0.038 | 0.280 | | 0.016 | -0.072 |
| 9 Mental illness in the home | 0.187 | 0.256 | 0.287 | 0.181 | 0.090 | -0.028 | 0.047 | 0.016 | | 0.021 |
| 10 Imprisoned household member | 0.019 | 0.036 | -0.032 | -0.187 | 0.023 | -0.081 | 0.244 | -0.072 | 0.021 | |

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