

NEW MEXICO SENTENCING COMMISSION

Yael Cannon, JD · George Davis, MD · Andrew Hsi, MD, MPH · Alexandra Bochte, JD ·
in collaboration with the New Mexico Sentencing Commission

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Study Highlights

- A retrospective study of adults conducted by the CDC & Kaiser Permanente examined the relationship between several forms of childhood trauma (adverse childhood experiences or ACEs) & related health outcomes. Individuals with 4+ ACEs (12% of sample) were more likely to report health conditions & shorter lifespans.
- The current study includes all 220 juvenile offenders committed for incarceration in New Mexico during 2011 & uses the results of comprehensive multi-disciplinary psychosocial assessments to examine juveniles' ACEs, psychological & family conditions, & exposure to other traumatic events.
- 86% of incarcerated New Mexico juveniles experienced 4+ ACEs, 7 times higher than the CDC-Kaiser study.
- New Mexico juveniles experienced ACEs at a higher rate than juvenile offender populations in other studies.
- Among incarcerated New Mexico juveniles, majorities experienced emotional (76%) or physical (94%) neglect, parental divorce/separation (86%), and substance abuse in the home (80%).
- Axis I diagnoses (99.5%), substance abuse disorders (96%), & depression (48%) were widespread among incarcerated New Mexico juveniles.
- Females had a higher incidence of ACEs. 23% of females experienced 9+ ACEs compared to 3% of males.
- Females had a statistically significant higher incidence of sexual abuse (63% vs. 21%) & physical abuse (70% vs. 49%) when compared to males.
- Efforts are needed to identify & prevent early childhood trauma in New Mexico. Intervention goals include preventing additional ACEs in young children who have experienced them & trauma screening when children enter the juvenile justice system. Additionally, evidence-based, trauma-informed, family-engaged mental-health & substance-abuse treatments should be available throughout the juvenile justice system and to youth subsequent to discharge from detention and incarceration.

Adverse Childhood Experiences in the New Mexico Juvenile Justice Population

Introduction

Faculty from the University of New Mexico (UNM) School of Law and the UNM School of Medicine, and New Mexico's Children, Youth and Families Department (CYFD) initiated a joint project to look at the prevalence of Adverse Childhood Experiences (ACEs) nationally and in New Mexico. The study was intended to better establish the association between early childhood trauma and delinquency, as well as to explore the role that law and medicine can play in ensuring better health and juvenile justice outcomes for children who have experienced ACEs. In pursuit of the research, the three research partners organized meetings with the New Mexico Sentencing Commission (NMSC), which is a criminal and juvenile justice policy resource center for the state. Each of these agencies brings a unique perspective to a review of this information. The common goal is to provide a greater understanding to New Mexico's juvenile justice stakeholders about the rates of trauma and victimization and related needs among juvenile offenders. The research may also help to identify prevention strategies that might improve outcomes for youth. Upon meeting, the parties decided to engage in a joint project to establish the prevalence of ACEs in New Mexico's committed juvenile justice population and compare it to other juvenile justice populations nationally.

Adverse Childhood Experiences were defined in the original investigation by Anda and Felitti (1998) as childhood experiences that were judged to be stressful for the developing child. These adverse experiences were grouped into either childhood abuse or household dysfunction and were formulated as 10 childhood experiences identified as risk factors for chronic disease in adulthood: emotional abuse, physical abuse, sexual

abuse, emotional neglect, physical neglect, violent treatment towards mother, household substance abuse, household mental illness, parental separation or divorce, and having an incarcerated household member. The results of the investigation were first described by Felitti, Anda, and colleagues in 1998, with the publication of their retrospective Kaiser Permanente study, *Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study* (Felitti et al., 1998). The Kaiser Permanente study asked 17,421 insured, well educated, adult patient participants to retrospectively complete a confidential survey that contained questions about childhood maltreatment and family dysfunction, as well as items detailing their current health status and behaviors (CDC.gov). This information was combined with the results of their physical examination to form the baseline data for the study. The researchers for this particular project were able to identify that these 10 childhood experiences were positively correlated with the subsequent development of a wide range of chronic physical and mental health disorders in adulthood. Sixty-four percent (11,149) of the study participants had experienced one or more categories of ACEs. ACEs have more recently been identified with immediate negative consequences, such as functional changes to the developing brain (Anda et al., 2010) and are found in significantly increased prevalence among juvenile justice-involved youth compared to youth in the general population (Baglivio et al., 2014). Teague et al. (2008) states that experiencing childhood physical abuse and other forms of ACEs leads to higher rates of self-reported total offending, violent offending, and property offending, even after controlling for delinquent behavior.



Children Youth & Families Department



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Figure 1. Study Descriptions			
Name of Study	Population Description	Data Collection Method	Maximum ACE Score
Kaiser Permanente	17,421 adult patients	Retrospectively complete a confidential survey that contained questions about childhood maltreatment and family dysfunction, as well as items detailing their current health status and behaviors (self-report)	10
New Mexico (2009) Behavior Risk Factor Surveillance System (BRFSS)	Random sample of 26,229 adults	Telephone survey (landline and cellular, self-report)	8
Florida Department of Juvenile Justice	64,329 referred juvenile offenders	Completed the Positive Achievement Change Tool by being directly asked about their respective ACE experiences (self-report)	10
New Mexico Juvenile Justice Population	220 juveniles committed for incarceration to CYFD	Psychosocial evaluation in conjunction with collateral information gathered from previous treatment programs, medical records, and state child protective service records, as well as information gathered from calls to guardians and juvenile probation officers	9

Florida is one of a few states that have looked at ACEs in juvenile justice-involved populations. A study was conducted by the Florida Department of Juvenile Justice to examine the prevalence of ACEs in a population of 64,329 juvenile offenders in Florida (Baglivio et al., 2014). An important finding in the Florida study revealed that increased ACEs scores correlated with increased risk to reoffend through the use of a risk-needs assessment called the Positive Achievement Change Tool (PACT). The PACT is an actuarial risk-needs assessment designed to assess a youth's overall risk to reoffend, as well as to rank criminogenic needs and dynamic risk factors (Baglivio et al., 2014). The PACT is adapted from the validated Washington State Juvenile Court Assessment (WSJCA), which has been in use since 1998. There are two versions of the PACT: a pre-screen and a full assessment. Both versions of the PACT produce a criminal history sub-score and a social history sub-score. The pre-screen and full assessment produce the same scores because the questions used for scoring are identical in each tool. The reason for completing a full assessment was to gain a better understanding of the youth's situation and past experiences (Baglivio et al., 2014). The sample of youth in the Florida study were asked directly about their respective ACEs experiences. Baglivio (2014) and colleagues examined the prevalence of each ACE, the proportions of youth with different ACEs scores, and the prevalence rates across

genders. Ninety-seven percent (62,536) of the sample reported experiencing at least one ACE (Baglivio et al., 2014).

The Behavioral Risk Factor Surveillance System (BRFSS) is a collaborative project of the Centers for Disease Control and Prevention (CDC) and U.S. states and territories (CDC.gov). The BRFSS, administered and supported by CDC's Behavioral Surveillance Branch, is an ongoing data collection program designed to measure behavioral risk factors for the adult population (18 years of age or older) living in households (CDC.gov). The BRFSS was initiated in 1984, with 15 states collecting surveillance data on risk behaviors through monthly telephone interviews (CDC.gov). Over time, the number of states participating in the survey increased, so that by 2001, 50 states, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands were participating in the BRFSS. (In this document, the term *state* is used to refer to all areas participating in the surveillance system, including the District of Columbia, Guam, the U.S. Virgin Islands, and the Commonwealth of Puerto Rico (CDC.gov).)

The objective of the BRFSS is to collect uniform, state-specific data on preventive health practices and risk behaviors that are linked to chronic diseases, injuries, and preventable infectious diseases that affect the adult population (CDC.gov). Factors assessed by the BRFSS include tobacco use, health care coverage, HIV/AIDS knowledge and prevention, physical activity, and fruit and vegetable consumption (CDC.gov). Data are collected from a random sample of adults (one per household) through a telephone survey. BRFSS is a surveillance system operated by state health departments in collaboration with CDC. Each month, trained interviewers using a standardized questionnaire collect data from a probability sample of the non-institutionalized U.S. adult population residing in households with landline and cellular telephones (CDC.gov). The 2009 ACEs module consisted of 11 questions that yielded eight categories of ACEs (i.e., verbal abuse, physical abuse, sexual abuse, household mental illness, household substance abuse, domestic violence, parental separation/divorce, and incarcerated family members). These questions were adapted from large, validated survey instruments measuring the frequency of these ACEs. The ACEs module was implemented in five states (Arkansas, Louisiana, New Mexico, Tennessee, and Washington). Figure 1 describes the differences between the studies used in this analysis.

The 2013 publication by the Northwestern Juvenile Project (Abram et al., OJJDP Juvenile Justice Bulletin, 2013) reported that out of a random sample of juveniles detained over a three-year period, 92.5% had experienced at least one traumatic event, 84% had experienced two, and 56.8% had been exposed to six or more traumatic events. Of these juveniles, 11.2% had met the criteria for Posttraumatic Stress Disorder sometime in the prior year. This study relied exclusively on subject self-reports since collateral information was not available and the families were not accessible. Presumably some of these limitations were imposed by the shorter-term stays of detained juveniles as opposed to an incarcerated sample.

Literature Review

The original ACEs study by Felitti et al. (1998) and the BRFSS study provide useful comparison data to this study in that they provide baselines for ACEs prevalence among the general population. The data in the Florida study by Baglivio et al. provides useful comparisons in regards to the prevalence of ACEs in the juvenile justice population. In this section, the authors provide greater detail for the ACEs study, comparative literature, and studies related to intervention for juveniles at risk of entry to the juvenile justice system.

Review of Anda and Felitti's original ACEs study highlighted several significant findings. Health risk behaviors occurred much more among those individuals with higher numbers of ACEs. For example, among individuals with zero ACEs, 1% (3,861) of the group had four or more health risk behaviors compared to the 56% who had no risk behaviors such as smoking, severe obesity, physical inactivity, depressed mood, suicide attempt, alcoholism, any drug use, injection drug use, more than 50 lifetime sexual partners, or a history of a sexually transmitted disease. By comparison, among individuals who had experienced four or more ACEs, there was a seven-fold greater rate of having four or more health risk issues such as smoking, depressed mood, alcoholism, and other health risk behaviors compared to the 14% with four or more ACEs who had no health risk behaviors.

In summary, the ACEs research was the first to link poorer health status found at a preventive health clinic evaluation to high-risk health behaviors correlated with patients' recall of severe adverse childhood experiences before age 18. The researchers found a "dose-response relationship between the number of childhood exposures and the following disease conditions: ischemic heart disease, cancer, chronic bronchitis or

emphysema, history of hepatitis or jaundice, skeletal fractures, and poor self-rated health." These health conditions represented many of the major causes of disability and death in the largely Caucasian, middle class, middle aged, and well-educated patients covered by the Kaiser insurance plan. Experiences of ACEs often start in the first decade of life and the effects of these events persist as toxic stress in the lives of children. The toxic stress arising from the effects of ACEs helps explain the significance of the impact of suffering four or more ACEs in early childhood that lead to involvement in greater numbers of health risk behaviors in youth. Greater health risk behaviors lead to lifelong poorer health outcomes, with those having more ACEs experiencing more of the conditions that lead to early morbidity and death.

The association between early child maltreatment and delinquency has been firmly established in the literature. A comparison study between 908 children with documented maltreatment and 667 children without such abuse indicated a 59% increase in delinquency arrest for the maltreated sample (Widom and Maxfield, 2001). Another study found abused and neglected children to be 11 times more likely to be arrested for criminal behavior (English, Widom, and Brandford, 2004). Females and males have been independently studied and a similar association between abuse and delinquency was verified across genders (Frias-Armenta, 2002; Lansford et al., 2007). The linkage between delinquency and prior abuse is reproduced with some significant degree of correlation in the overwhelming majority of studies that examine the issue.

The mechanism of the association between childhood abuse and delinquency has been linked to impaired early neurodevelopment. Over the course of the last two decades, progress in developmental brain science has documented the damage done by early neglect and abuse to critical neuro-regulatory systems that are normally established during sensitive early developmental periods (Anda et al., 2006; Gutman and Nemeroff, 2002). Early childhood maltreatment also negatively alters critical neurotransmitter systems that are necessary for social attachments and affect regulation (Bennett, 2002; Caldji, 2000). The development of these attachment and regulatory capacities depends upon the consistent support of the primary caretaker and the environment, and is mediated by extraordinarily complex interactions between neuroendocrine systems and expanding neural networks (Perry and Pollard, 1998; Teicher, 2003). The impairment of these regulatory systems is in turn related to aggression, substance abuse, and delinquency itself.

Although there are studies that focus on the consequences of specific traumatic exposures such as sexual abuse or domestic violence, there is limited research that attempts to quantify or describe the degree and full range of early maltreatment that often precedes delinquent behavior. There are fewer studies that still employ the specific categories of Adverse Childhood Experiences defined in the original ACEs study (Felitti et al., 1998). The Chicago Northwestern Juvenile Project and the Florida Department of Juvenile Justice ACE study, both described in the introduction, examine the presence of trauma in different subsets of the juvenile justice population. The Chicago study examined 1,829 juveniles detained in Chicago over a three-year period and assessed them for self-reported trauma and the presence of PTSD (Abram et al., 2013), and a recent study of 64,329 high-risk delinquents in Florida (Baglivio et al., 2014) estimated ACEs exposure from the results of the PACT risk-assessment instrument. A 2010 pilot study of youth referred to the Massachusetts Alliance of Juvenile Court Clinics (MAJCC) found the median number of ACEs to be five, with more than 63% having more than four (MAJCC 2010). This estimate is presumably higher because it is a clinic-referred population, but the findings are similar to the number of ACEs the present study also found in an incarcerated population.

Methods

The data set used for this study is gathered from the initial psychosocial evaluations of 220 juveniles who were committed for incarceration to the custody of the New Mexico CYFD during the calendar year of 2011. The sample includes all males and females between the ages of 13 and 18 who were committed to the CYFD's Juvenile Justice Services facilities during that time period, regardless of the offense(s) that led to their commitment or their sentences, without any preliminary selection screening other than the commitment itself, and therefore represents the complete universe of New Mexico delinquents who reached that advanced level of system penetration in a single year.

The written psychosocial evaluation that is performed on each adolescent who is committed for incarceration is based in part on independent intake interviews performed by psychological diagnosticians and psychiatry, education, medical, and behavioral health staff. The final written evaluation also incorporates collateral information gathered from previous treatment programs, medical records, and state child protective service records, as well as information gathered from calls to guardians and juvenile probation officers. All self-report and interview findings are compared to

previous records, including psychological and educational testing records and to the interviews of all the other disciplines. At the completion of the initial three-week evaluation period, professionals from all of these disciplines gather on each case to compare information, finalize recommendations, and reach a consensus diagnosis and treatment plan based upon the findings.

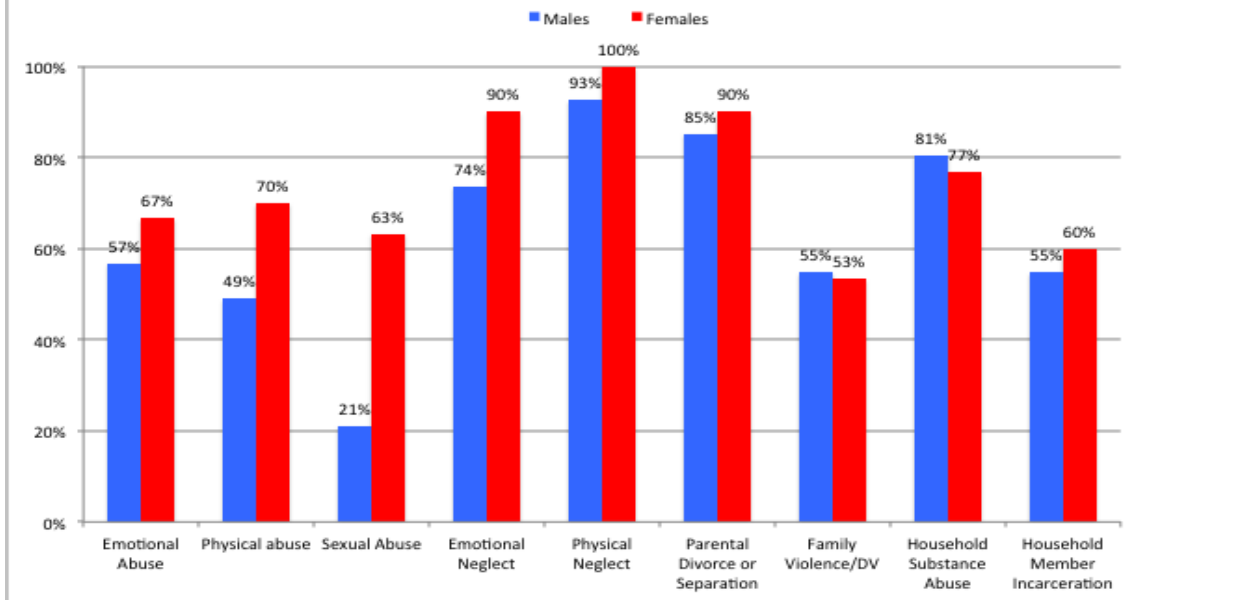
The diagnostic psychosocial evaluations for each adolescent were then examined by a trained reviewer who determined the presence or absence of nine out of 10 of the original ACEs from the Kaiser-CDC ACEs study. The last factor, which represented the presence of mental illness in the family, was omitted because the ability to determine the presence or absence from available records was not considered adequate for accuracy. Data was also collected on additional conditions/traumatic events, including:

- Psychological conditions: self-injury, suicide attempt by the child, diagnosis of depression (any diagnosed depressive condition at the time of admission) or PTSD, Substance Abuse Disorder based on Diagnostic and Statistical Manual-Fourth Edition (DSM-IV) criteria, Axis One diagnosis based on DSM-IV criteria, or prior identification of special education eligibility;
- Family conditions: substantiated or unsubstantiated protective services reports, child's prenatal drug or alcohol exposure, child raised by a non-biological parent with no CYFD involvement, or having an out-of-home placement (residential treatment center, treatment foster care, group home, or psychiatric hospital); and
- Other conditions or traumatic events: teen pregnancy, teen father, obesity, witnessing a death or murder and death of a friend or family member.

Each ACE was recorded and treated as a dichotomous variable (coded yes or no). Any indication of a yes was counted as a positive ACE and included in the summary ACEs scores. Because the study used secondary analysis of de-identified data, no consent from the youth was required. Institutional Review Board (IRB) approval was obtained from the UNM IRB.

NMSC performed a secondary data analysis of this existing database. Variables were recoded in order to combine the values of the variables into fewer categories. After recoding, cross-tabulations were run in order to get frequencies and percentages of the

Figure 2. Prevalence of ACE Description Indicators by Gender



recoded variables. This present methodology can usefully be compared to other relatively recent studies of juveniles in various stages of involvement in the delinquency system.

Baglivio et al., (2014) looked at all juveniles who had received an official referral to the Florida Department of Juvenile Justice over a six-year period and who had been administered the PACT) full assessment after being pre-screened for high likelihood to reoffend by the PACT short version, as discussed above. Only those juveniles who had reached 18 years of age by the end of the collection period were included. As was the case with the Northwestern study, this study relied on self-report in response to a structured assessment risk tool rather than a multidisciplinary clinical assessment with supplementation by family report and historical records, as in this study. The Northwestern study sought to determine exposure to trauma and subsequent PTSD, whereas both the Florida and the New Mexico study seek to determine the number of ACEs using either clinical or self-report data.

An analysis was performed to determine if youth with specific psychological conditions, family trauma, or exposure to other traumatic events had higher overall ACE scores compared to youth who did not have those conditions.

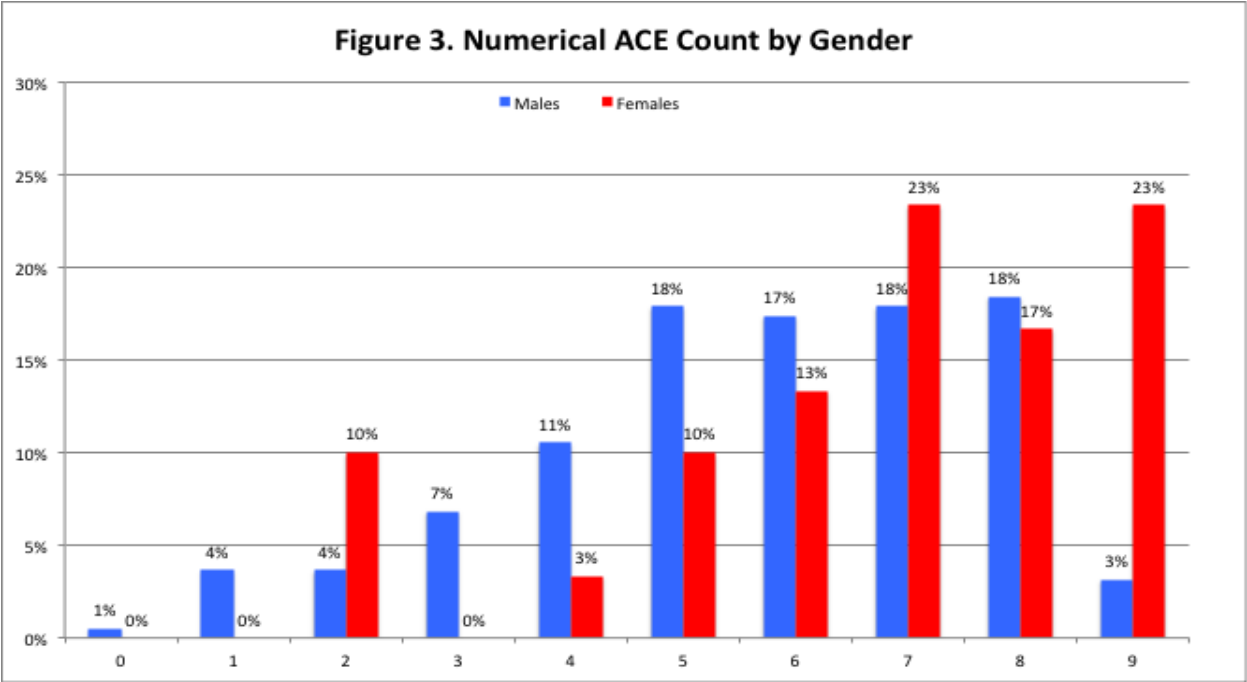
Findings

The sample was predominately male, 86.4% (190), while females comprised 13.6% (30) of the sample. Figure 2 illustrates the prevalence rates of each ACE

indicator by gender. Looking at individual ACEs indicators, we see they vary from a low of 21% male prevalence for sexual abuse to a high of 100% female prevalence for physical neglect. The most prevalent ACEs indicator was the same for both males and females: physical neglect (93% and 100%, respectively) followed by parental divorce or separation (90% and 85%, respectively). The least commonly reported ACEs indicator for males were sexual abuse and physical abuse, while the lowest for females were family violence/domestic violence and having an incarcerated household member. Sexual abuse was experienced three times more frequently by females than by males (63% and 21%, respectively).

Figure 3 on page 6 illustrates the prevalence of ACE scores in the current study by gender. Only 0.5% of the males and 0% of the females experienced no ACEs. Approximately 3.7% of the males reported just one ACE compared to 0% of the females. Of the males, 74.8% had exposure to five or more ACEs, compared to 86.6% of the females. These results indicate female youth in the New Mexico sample had a higher average number of ACEs than males, which is consistent with the Florida ACEs study.

Figure 4 on page 7 illustrates the vast difference from the sample of adults in the original ACEs study (Felitti et al., 1998), the 2009 New Mexico BRFSS survey, the Florida juvenile ACEs study, and the sample of juveniles in the current ACEs study. When comparing ACEs scores across studies it should be noted that each study had a different maximum ACEs score. The



Kaiser Permanente and Florida studies have a maximum ACE score of 10, while the New Mexico BRFSS and New Mexico’s juvenile justice facilities studies had a maximum ACE score of 8 and 9, respectively.

As illustrated in Figure 4 on the following page, New Mexico juvenile offenders are 36 times less likely to have experienced zero ACEs (1% compared to 36%) and seven times more likely to have four or more ACEs (86% compared to 12%) than Felitti and Anda’s Kaiser Permanente study. New Mexico juvenile offenders are three times less likely to have experienced zero ACEs (1% compared to 3%) and nearly two times more likely to have four or more ACEs (86% compared to 50%) than the Baglivio (2014) ACEs study. The results suggest that the juvenile offenders in the current New Mexico study were significantly more likely to have ACE exposure and to have multiple ACEs exposures than the adults in the Kaiser Permanente study and juveniles in the Florida study. A possible reason for the difference in ACEs exposures between Florida and New Mexico is the sampling frame since the New Mexico sample consisted of only committed juveniles while the Florida sample that included all juveniles who were referred. CYFD believes the in-depth psychosocial evaluation of the New Mexico study better revealed the full extent of the adverse experiences.

Figure 5 on page 8, shows the offense that led to the commitment. The primary reason juveniles were

committed to the detention facility was due to probation violations, with 55% (104) of the males and 80% (24) of the females committed for a probation violation. Violent offenses for males 23% (44) and females 7% (2) and property crimes for males 12% (23) and females 7% (2) were the next most committed offenses. Public order offenses for males 5% (10) and females 3% (1) and drug-related offenses for males 5% (9) and females 3% (1) were the offenses for which the juveniles were incarcerated least often.

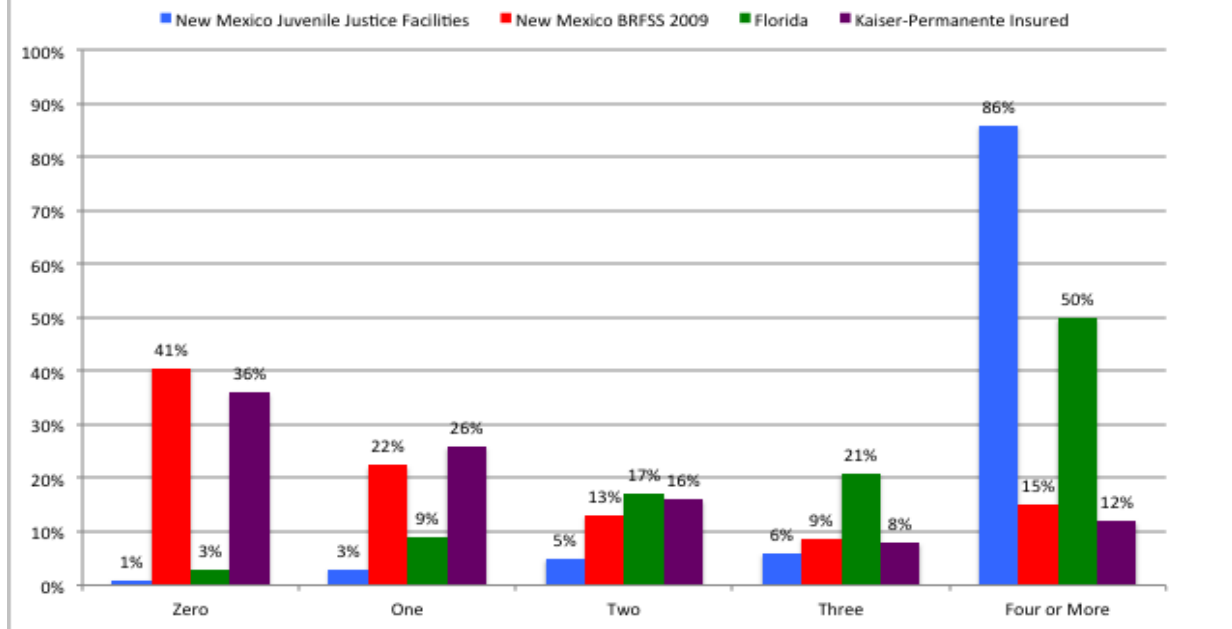
Table 1 in Appendix A illustrates the frequency of the percentage of youth who were coded as having experienced the additional variables collected: specific psychological conditions, family conditions, or exposure to other conditions or traumatic events relative to those who did not experience the condition. Table 2 in Appendix A presents only the statistically significant findings count for each juvenile as having experienced the listed conditions along with the mean ACEs score. In this study, the highest ACEs score possible was 9. In all cases, the mean ACEs score was higher for youth who experienced those additional conditions. Figure 1 on page 2 contains a description of the population, how the data was collected, and the maximum ACEs score for each data set.

Conclusion

PREVENTION OF ACES AND PATH TO DELINQUENCY

Nearly all of the youth whose histories were examined for this study experienced some form of adverse

Figure 4. Comparison of ACE Scores



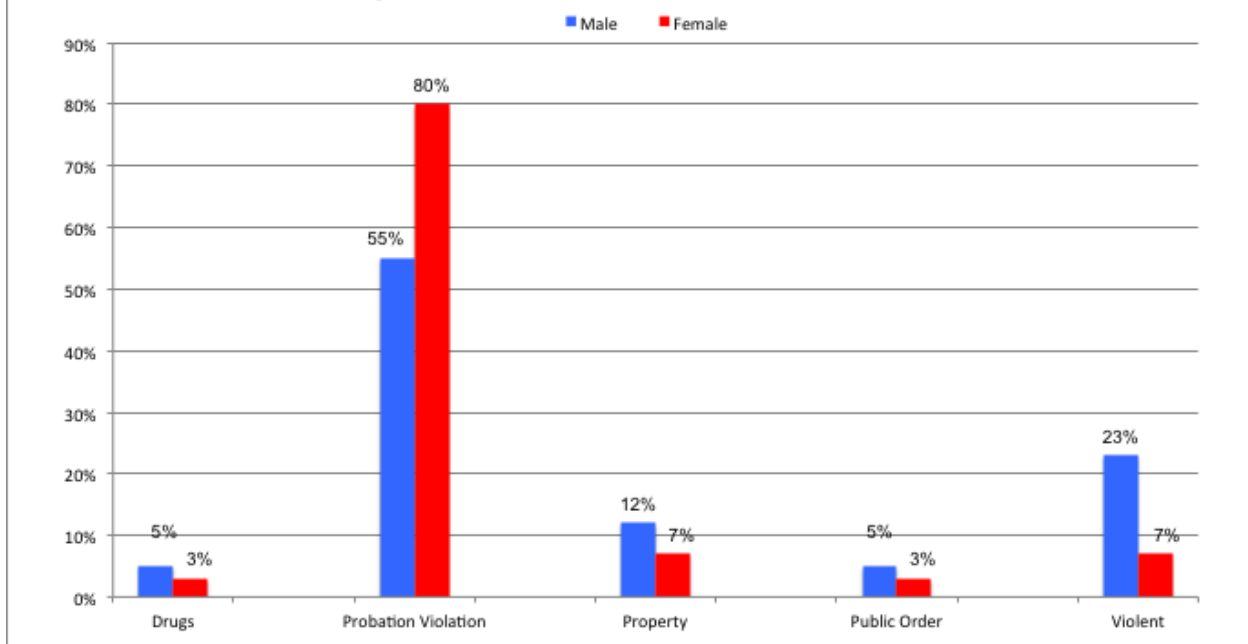
childhood experience in their lives, with more than 99% having experienced at least one ACE. Moreover, the data indicates that many of the juveniles in state custody in the data sample experienced numerous ACEs during their childhood, with more than 86% having experienced four or more of these traumatic events, compared to only 12% of participants in the original ACEs study. As indicated in Table 1 in Appendix A, many of these youth also experience related psychological conditions, such as PTSD, depression, and substance abuse disorder. Prior ACEs studies have also found high rates of subsequent mental health and substance abuse conditions, such as illicit drug use and addiction, among those who experienced more than four ACEs in childhood (Dube et al., 2003). The New Mexico Legislative Finance Committee’s April 2014 report entitled *Evidence-Based Programs to Reduce Child Maltreatment* provides useful recommendations on programs that are proven to result in reduced childhood maltreatment, such as home-visiting programs.

The high number of ACEs experienced by many youth in the study sample also indicates the need to identify trauma and the related health and mental health needs of children and families as early as possible to reduce the number of ACEs and poor outcomes experienced by children. New Mexico’s J. Paul Taylor Early Childhood Taskforce, CYFD, and other state entities are exploring ways to create a system of care that would ensure early identification of childhood trauma

and provision of necessary related treatment. More research needs to be conducted to determine how to best identify childhood trauma experienced by individual children as early as possible to ensure that further trauma for those children can be prevented.

Once trauma has been identified, children and families can benefit from an assessment of related health and mental health needs and early treatment that can help to prevent further trauma and provide stability to children and families. Such support might help to avert eventual entry into the juvenile justice system. Faculty from the UNM School of Medicine and UNM School of Law, including two of the authors of this report, have developed one such program. The UNM Health Sciences Center’s FOCUS program provides multi-generational, multi-disciplinary medical and wraparound services and home-based early intervention services, integrated with civil legal services through the UNM medical Legal Alliance, to prevent further trauma and ensure better outcomes for children who experienced prenatal drug exposure and are therefore born with at least one ACE (household substance abuse) household substance abuse. The findings from this report confirm the need to continue to develop programming to identify and address trauma and related health and mental health needs as early as possible in the lives of New Mexico’s children.

Figure 5. Offense that Led to Commitment



SCREENING FOR TRAUMA AND MENTAL HEALTH AND SUBSTANCE ABUSE TREATMENT NEEDS OF YOUTH IN THE JUVENILE JUSTICE SYSTEM

There are lessons to be drawn from the methodology of this study. The trauma histories, including specifically the presence or absence of ACEs, were gathered from the combined evaluations of up to five different professionals from different disciplines. This information was compared to historical collateral information from child protective services, previous treatment, and contact with guardians. The varying estimates of trauma in the juvenile justice population raises important questions about the most accurate methods of gathering trauma history information. Self-report of trauma by juveniles can provide quite different information depending upon the nature of the trauma and the skill of the interviewer. Moreover, memory of trauma can be fragmentary and undependable with the possibility of underreporting generally more likely than over reporting (Anda et al., 2005). It stands to reason that the most accurate information will be obtained by comparison to historical child protective and legal records.

Given that trauma is pervasive in this population, consistent and intensive screening processes would help to highlight need and better target services. Since not every adolescent involved with the juvenile justice system can be evaluated with the same intensive process as is performed on incarcerated youth, the application of a single validated screening instrument

to populations at risk could simplify and standardize the assessment process.

FACILITY TREATMENT PROGRAMS AND MODALITIES

The pervasive experience of trauma for children in the delinquency system provides an unmistakable direction for the type of care these adolescents will require during any periods of involvement with the juvenile justice system. This is especially true if they are to escape continued involvement or further penetration into the criminal justice system. Research has linked early trauma itself to poor impulse control, impaired affect regulation, and a propensity to abuse substances, which constitute the core symptoms of delinquency (Anda et al., 2006; English, Widom, and Brandford, 2004; Caspi et al., 2002). Therefore, if the delinquent course is to be altered, the deficits and symptoms caused by the traumatic experiences of these youth will need to be addressed by specifically designed treatments. Although there are evidence-based treatments that have been developed for early childhood trauma, these need to be better operationalized for application to the delinquent population. The factors that distinguish trauma treatment for the delinquent population from treatments for more typical PTSD are primarily due to the pervasive and early nature of their trauma and the deficits in their early caretaking (Ford et al., 2013).

Consequently, treatment modalities designed for delinquents should address damage resulting from early

childhood trauma to those core regulating capacities (Anda et al., 2005; Heim and Nemeroff, 2001; Teicher, 2000). Moreover, given that the results of this study indicate high rates of trauma related to household situations, such as household substance abuse and family violence, treatment for these juveniles should engage their families to the greatest extent possible. Over the last several years, CYFD has committed itself to providing training in trauma-informed treatments both internally as well as to community providers. Because of its responsibility to care for populations that are particularly traumatized, such as children involved in the protective services and juvenile justice systems, CYFD has raised the quality requirements for trauma-informed care for children. The national epidemic of excessive medication use in the welfare population is directly related to the traumatic histories of these children, and therefore the agenda to improve the quality of trauma-informed care goes hand in hand with CYFD's simultaneous efforts to reduce unwarranted medication use in the delinquent population (Government Accountability Office, HHS Guidance in Psychotropic Medications, 2011). Curtailing the culture of medication overuse and advancing the skills of community providers is both a long-term commitment as well as an ongoing monitoring requirement for CYFD. Further research should explore how to best build on current efforts to develop a trauma-informed system of care for delinquency-involved youth in the state.

Because experience shows that only a minority of delinquent adolescents require incarceration due to being a public safety risk, trauma-informed services should be available for this population while they are still in the community for the specific purpose of diverting youth away from incarceration-based treatment (Shelden, OJJDP Bulletin, 1999; Kurlychek, Torbet, and Bozynski, OJJDP Bulletin, 1999). As indicated in Figure 5, the majority of the youth were incarcerated because of a probation violation. Community alternatives to incarceration should be studied and designed to include various types and intensities of trauma-informed care. These same trauma-informed treatments should follow adolescents into juvenile facilities when community-based intervention fails to avert the need for incarceration. In all phases of delinquent trauma treatment, the programs should include an emphasis on basic life skills, independent living, and vocational training in an effort to provide adolescents with alternatives to previous criminal activities.

POST-COMMITMENT TREATMENT NEEDS Planning for aftercare of juveniles housed in New

Mexico's juvenile justice facilities starts with the recognition that the juveniles come from a background of elevated family stresses, as indicated in Figure 2. More than 85% come from families with parents separated or divorced. This suggests that upon returning home, the young person will navigate complex relationship issues with one or more parental figures with differing degrees of parental involvement. More than 75% of the juveniles experienced families affected by substance-use disorders, information that should guide discussions of how the young person will remain safe and not experience environmental triggers to revisit their own use of legal and illicit substances. Females, as shown in Figure 3, reported greater prevalence of different types of ACEs than males, with 10% of females experiencing two ACEs compared to 3% of males and 23% of females having nine compared to 3% of males. Females may need higher levels of behavioral health support than males to address the unresolved trauma experienced before commitment.

The youth who have experienced more than six ACEs at time of commitment have greater risks for PTSD, depression, self-injury, and suicide attempts, indicating the need for consistent mental and behavioral health care, as indicated in Table 1 of the appendix. A significant measure reported in Table 1 of the appendix is the fact that 96.4% of youth committed to New Mexico's juvenile justice facilities have identified substance use disorders. While they may successfully become substance-free during their commitment, most of these young people will need ongoing treatment, including counseling and possible medication-assisted treatment, particularly for opioid substance use disorder. Due to the lifelong chronic nature of substance-use disorders, individuals receiving treatment should plan for transition from children's behavioral health to service for adults with a period of designed connection and without interruptions due to insurance considerations. This is particularly important given that a majority of youth were incarcerated for issues of violation of their conditions of probation as seen in Figure 5. The data generated from the cohort of youth committed to New Mexico's juvenile justice facilities in 2011, obtained and organized through a careful methodological review of corollary information, provide strong support for implementation of a comprehensive system of care after commitment for youth with high levels of ACEs.



References

- Abram, K.M, Teplin, L.A, King, D.C, Longworth, S.L, Emanuel, K.M, Romero,E.G, McClelland, G.M, Dulcan, M.K., Washburn, J.J, Welty, L.J, and Olson, N.D. (2013). [PTSD, Trauma, and Comorbid Psychiatric Disorders in Detained Youth. Office of Juvenile Justice and Delinquency Prevention Juvenile Justice Bulletin,1-14.](#)
- [Adverse Childhood Experiences \(ACEs\) Data Collection in Massachusetts Juvenile Court Clinics Pilot Project: 2012-13 Initial Findings.](#) Massachusetts Alliance of Juvenile Court Clinics. April 2013
- Anda, R. F, Butchart, A, Felitti, V. J, & Brown, D. W. (2010). [Building a framework for global surveillance of the public health implications of Adverse Childhood Experiences.](#) American Journal of Preventive Medicine, 39, 93–98.
- Anda, R.A, Felitti, V.J, Bremner, J.D, Walker, J.D, Whitfield, C, Perry, B.D, et al. (2006). [The Enduring Effects of Abuse and Related Adverse Experiences in Childhood: A convergence of evidence from neurobiology and epidemiology.](#) European Archives of Psychiatry and Clinical Neuroscience, 256,174–186.
- Baglivio, M, Epps, N, Swartz, K, Sayedul Huq, M, Sheer, A, Hardt, N. (2014) [The Prevalence of Adverse Childhood Experiences \(ACE\) in the Lives of Juvenile Offenders.](#) Journal of Juvenile Justice, Vol 3. Issue 2, 1-23.
- Bennett AJ, Lesch KP, Heils A, Long JC, Lorenz JG, Shoaf SE, Champoux M, Suomi SJ, Linnoila MV, Higley JD, (2002). [Early Experience and Serotonin Transporter Gene Variation Interact to Influence Primate CNS Function.](#) Molecular Psychiatry, 7, 118–122.
- Caldji C, Francis D, Sharma S, Plotsky PM, Meaney MJ, (2000). [The Effects of Early Rearing Environment on the Development Of GABA and Central Benzodiazepine Receptor Levels and Novelty Induced Fearfulness in the Rat.](#) Neuropsychopharmacology, 22, 219–229.
- Center for Disease Control and Prevention (2015). Injury Prevention & Control: Division of Violence Prevention. Retrieved from: <http://www.cdc.gov/violenceprevention/acestudy/about.html>
- English, D. J, Widom, C. S, & Brandford, C. (2004). [Another look at the effects of child abuse.](#) *National Institute of Justice Journal*, 251, 23-24.
- Felitti, V.J, Anda, R.F, Nordenberg, D, Williamson, Spitz, A.M, Edwards, V, Koss, M.P, Marks, J.S. (1998). [Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences \(ACE\) Study.](#) American Journal of Preventive Medicine, 14(4), 245–258.
- Frias-Armenta, M., (2002). [Long-Term Effects of Child Punishment on Mexican Women: A Structural Model.](#) *Child Abuse & Neglect*, 26(4), 371-386.
- Gutman, D, Nemeroff, C.B., (2002). [Neurobiology of Early Life Stress: Rodent studies.](#) *Seminars in Clinical Neuropsychiatry*, 7, 89–95.
- Lansford, J.E, Miller-Johnson, S, Berlin, L.J, Dodge, K.A, Bates, J.E, Pettit, G.S. (2007). [Early Physical Abuse and Later Violent Delinquency: A Prospective Longitudinal Study.](#) *Child Maltreatment*,12, 233-245.
- New Mexico Legislative Finance Committee (2014). [Evidence-Based Programs to Reduce Child Maltreatment.](#)
- Perry BD, Pollard R, (1998). [Homeostasis, Stress, Trauma, and Adaptation. A Neurodevelopmental View Of Childhood Trauma.](#) *Child and Adolescent Psychiatric Clinics of North America*, 7, 33–51.
- Teague, R., Mazerolle, P, Legosz, M, Sanderson, J. (2008). [Linking childhood exposure to physical abuse and adult offending: Examining mediating factors and gendered relationships.](#) *Justice Quarterly*, 25, 313–348.
- Kurlychek, M, Torbet, P, and Bozynski. (1999) [Focus on Accountability: Best Practices for Juvenile Court and Probation.](#) OJJDP.
- Teicher, M.H, Andersen, S.L, Polcari, A, Anderson, C.M, Navalta, C.P., Kim, D.M., (2003). [The Neurobiological Consequences of Early Stress and Childhood Maltreatment,](#) 27(1), 33-44.
- Widom, C.S, Maxfield, M.G. (2001). [An Update on the Cycle of Violence.](#) Research in Brief, Washington, DC: U.S. Department of Justice, National Institute of Justice, NCJ 18489

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APPENDIX A.

Table 1. Incidence of Conditions or Traumatic Events	
PSYCHOLOGICAL CONDITIONS	
Self-Injury	19.1%
Suicide Attempt by Child	13.6%
Depression	47.7%
PTSD	28.6%
Axis I Diagnosis	99.5%
Youth Diagnosed with Substance Abuse Disorder	96.4%
Prior Determination of Special Education Eligibility	36.4%
FAMILY CONDITIONS	
Unsubstantiated Report to Child Protective Services	43.2%
Substantiated Report to Child Protective Services	30.9%
Youth Experienced Prenatal Drug or Alcohol Exposure	16.4%
Out of Home Treatment	57.7%
Raised by Non--Biological Parent--No CYFD Involvement	13.6%
CYFD Removal from Home	17.3%
OTHER CONDITIONS OR TRAUMATIC EVENTS	
Teen Pregnancy History of Female Youth	6.8%
Male Youth Who are Teen Fathers	16.8%
Death of Friend of Family Member	40.5%
Witness death/murder	16.8%
Obesity	2.7%

APPENDIX A.

Table 2. Statistically Significant Categories				
Statistically Sig. Categories	Condition Absent	Condition Present	Avg. # of ACEs Where Condition is Absent	Avg. # of ACEs Where Condition is Present
Other Variables Collected				
PSYCHOLOGICAL CONDITIONS				
Self-Injury *	178	42	5.7	6.5
Suicide Attempt by Child **	190	30	5.7	6.8
Depression ***	115	105	5.3	6.4
PTSD ***	157	63	5.5	6.7
FAMILY CONDITIONS				
Unsubstantiated Report to Child Protected Services ***	125	95	5.1	6.7
Substantiated Report to Child Protective Services ***	152	68	5.2	7.2
Out of Home Residential Treatment ***	93	127	4.9	6.5
OTHER CONDITIONS OR TRAUMATIC EVENTS				
Witness death/murder *	183	37	5.7	6.4
* p < 0.05; ** p < 0.01; *** p < 0.001				

The New Mexico Sentencing Commission

The New Mexico Sentencing Commission (NMSC) serves as a criminal and juvenile justice policy resource to the three branches of state government and interested citizens. Its mission is to provide impartial information, analysis, recommendations, and assistance from a coordinated cross-agency perspective with an emphasis on maintaining public safety and making the best use of our criminal and juvenile justice resources. The Commission is made up of members of the criminal justice system, including members of the Executive and Judicial branches, representatives of lawmakers, law enforcement officials, criminal defense attorneys, and citizens.

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