

Human Trafficking of Minors and Childhood Adversity in Florida

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Objectives. To examine the link between human trafficking of minors and childhood adversity.

Methods. We compared the prevalence of adverse childhood experiences (ACEs) and cumulative childhood adversity (ACE score) among a sample of 913 juvenile justice-involved boys and girls in Florida for whom the Florida child abuse hotline accepted human trafficking abuse reports between 2009 and 2015 with those of a matched sample.

Results. ACE composite scores were higher and 6 ACEs indicative of child maltreatment were more prevalent among youths who had human trafficking abuse reports. Sexual abuse was the strongest predictor of human trafficking; the odds of human trafficking was 2.52 times greater for girls who experienced sexual abuse, and there was a 8.21 times greater risk for boys who had histories of sexual abuse.

Conclusions. Maltreated youths are more susceptible to exploitation in human trafficking. Sexual abuse in connection with high ACE scores may serve as a key predictor of exploitation in human trafficking for both boys and girls. (*Am J Public Health*. Published online ahead of print December 20, 2016: e1–e6. doi:10.2105/AJPH.2016.303564)

Human trafficking of minors is among the most difficult forms of juvenile victimization to investigate. Reliable data on this highly victimized population, particularly data collected from juvenile victims, are severely lacking.^{1,2} Most human trafficking study samples have been composed of adult women or girls; very few study samples include boys.^{1,2} Our understanding of trafficking of minors has been drawn primarily from studies using purposive sampling of trafficked individuals with no comparison groups.^{1–3} Because of less-than-reliable data and inadequate sample sizes, researchers infrequently have employed multivariate quantitative analytic strategies to investigate juvenile human trafficking.³ In summary, systematic reviews of human trafficking research have called for the use of more reliable research strategies to address current barriers to the development of prevention and intervention programs.^{1,3}

Therefore, we provide a clearer depiction of boys and girls involved in human trafficking by (1) identifying the prevalence of the adverse childhood experiences (ACEs) of

913 juvenile justice-involved youths who had officially reported victimization in human trafficking, and (2) quantitatively comparing ACEs of youths who had reports of human trafficking with ACEs of a matched sample of 913 youths who did not have reported victimization in human trafficking. By comparing the ACEs of youths who had or did not have histories of victimization in human trafficking, our study has the potential to advance our understanding of childhood adversities common among trafficked youths. We aimed to provide a clearer picture of childhood adversities that heighten vulnerability to trafficking in boys and girls to inform policymakers and service providers engaged in human trafficking prevention, intervention, and treatment strategies.

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HUMAN TRAFFICKING RISK FACTORS

Youths exploited in human trafficking are frequently arrested and detained in the juvenile justice system for several reasons. First, many adolescent victims of trafficking continue to be identified by law enforcement as offenders rather than victims and thereby become entangled in the juvenile justice system.⁴ Second, human traffickers often manipulate youths and coerce their involvement in criminal operations.⁵ Third, victimization in human trafficking has been consistently linked to the use of alcohol or drugs, increasing the likelihood of juvenile victims encountering and being detained by law enforcement because of drug-related charges.⁶

Previous research has also noted that certain risk factors were associated with the commercial sexual exploitation of children—one form of human trafficking—including inadequate education, limited employment opportunities, poor family support, sexual or physical abuse, and mental, emotional, or physical disabilities.^{2,5,7,8} Additional risk factors include domestic violence, substance abuse, and mental illness in family members, being a runaway or throwaway youth, drug dependency, gang membership, immaturity, and poor sexual decision-making.^{6,7,9}

Notably, the identified risk factors associated with human trafficking closely parallel the items included on the ACEs scale—a measure used in public health and childhood developmental research to measure and assess

the effects of childhood trauma in terms of psychological and health consequences over the life span.¹⁰ Attention to ACEs and the notion of an ACE score are grounded in an expansive body of research regarding the detrimental effects of childhood maltreatment and trauma.¹¹ Evidence of the effects of cumulative adversity in childhood led to the development of the ACE score as a single composite score considered to be predictive of subsequent psychosocial and health impairments over the life span.¹⁰

An ACE score is calculated by summing types of childhood adversities, each measured as either present or absent during childhood regardless of the duration or severity.¹⁰ ACEs have been associated with risky health behavior, health problems, and early death.^{10–16}

UNDERSTANDING THE TRAFFICKING OF MINORS

Taking a step toward greater understanding of trafficking of minors, we investigated the impact of specific types of childhood adversities as well as the effects of cumulative childhood adversity¹³ on youths victimized in human trafficking in comparison with a matched subsample of youths. Numerous studies have found associations between human trafficking and specific types of childhood adversity. Therefore, our examination of the strength of the associations between human trafficking and types of ACEs may yield important information about which adversities create heightened susceptibility to human trafficking. We examined both the cumulative ACE score and the influence of particular types of ACEs on human trafficking.

We used data from a sample of 68 218 youths collected by the Florida Department of Juvenile Justice (FDJJ). The Florida Department of Children and Families child welfare agency had identified a subsample of 913 youths in this sample as suspected or verified human trafficking victims. The Florida Department of Children and Families human trafficking abuse reports were determined by calls to the Florida Department of Children and Families child abuse hotline and subsequent investigations conducted by Florida Department of Children and Families and law enforcement personnel. We

compared childhood adversity, measured as ACEs and ACE scores of the 913 juvenile justice-involved youths who had human trafficking abuse reports, with a matched sample of 913 juvenile justice-involved youths who did not have such reports. Empirically based evidence emerged from the comparison of the childhood histories of trafficked and nontrafficked youths, resulting in greater understanding of the relative contribution of childhood maltreatment and other childhood adversities to exploitation in human trafficking.

METHODS

Our study sample included all youths in Florida who had a history of an arrest between 2007 and 2015 and who were administered and assessed using the Full Community Positive Achievement Change Tool (C-PACT) risk and needs assessment panel upon arrest and intake into the juvenile justice system.

The C-PACT has 2 forms—a full C-PACT and a prescreen C-PACT. Only the full C-PACT contains the information required to create ACE scores. Therefore, we included only youths assessed using the full C-PACT assessment. The necessary sample restriction to youths administered the full C-PACT oversamples higher risk youths among FDJJ youths. Previous work indicates that approximately 25% of all FDJJ offenders receive the full assessment, and 65% of those who do not receive a full C-PACT were disposed to diversion services.¹⁷

Measures

The demographic characteristics we used as matching variables included gender (male = 1; female = 2), race/ethnicity (non-Hispanic White = 1; non-Hispanic Black = 2; Hispanic = 3; other = 4), age at first offense documented by FDJJ (≤ 12 years = 1; 13–14 years = 2; 15 years = 3; 16 years = 4; > 16 years = 5); annual family income (0 = $> \$15\,000$; 1 = $\leq \$15\,000$); need for special education (no = 0; yes = 1); and judicial circuit where FDJJ processed the youth.

We drew ACEs from youth assessment results from their first C-PACT assessment at initial arrest. The full C-PACT consists of

126 items across 12 domains, including criminal history, education, family or living situation, alcohol or drug use, mental health, attitudes and behaviors, aggression, and social skills. The process of creating ACE scores, including the exact items, responses, and coding, from C-PACT data has been reported elsewhere.¹⁸ We coded each ACE type as a binary measure (no = 0; yes = 1), and we summed ACEs for a cumulative ACE score ranging from 0 to 10.

We determined a binary measure of human trafficking (no = 0; yes = 1) from abuse reports accepted by the Florida Abuse Hotline between 2009 and 2015. Between 2009 and 2015, the hotline made and accepted abuse reports related to human trafficking involving 3698 children.^{19–21} Human trafficking reports accounted for less than 1% of the Florida Abuse Hotline total report volume between 2009 and 2015,^{19–21} indicating a highly selective process for accepting human trafficking reports.

Investigations of accepted human trafficking reports have 3 possible outcomes: “verified,” “not substantiated,” or “no indicator.”²¹ Verified indicates that a preponderance of credible evidence supported the alleged harm. Not substantiated indicates that credible evidence did not meet the preponderance standard. No indicator indicates that the investigation resulted in no credible evidence. In the study data set, reports still under investigation were also coded no indicator. The investigation breakdown in the study data were 27% verified, 27% not substantiated, and 45% no indicator or open.

Results of the Florida Department of Children and Families investigative findings associated with allegations of human trafficking classified as either verified or not substantiated were markedly lower, and cases classified as no indicator were substantially higher than were other child abuse maltreatment types.^{19,20} The substantiated–unsubstantiated differentiation in child abuse cases is considered to be largely an artifact of issues unrelated to the actual presence of harm to children, such as the level of proof available to the investigating worker.²² In trafficking cases, which commonly (approximately 70%) involve an unknown, noncaregiver abuser^{19–21} and a youth unwilling to assist with the investigation,²³ gathering enough proof may be

even more difficult than in cases involving other types of abuse. In light of these conclusions, we included all youths who had trafficking reports in the primary analyses. We conducted bivariate analyses to detect any significant differences in all study measures across youth subgroups differentiated by investigation results. In addition, we replicated the multivariate analyses without the subsample of youths who had cases classified no indicator or open.

Between 2009 and 2015, the hotline classified reports containing an allegation of human trafficking in varying and evolving ways^{19–21} using 1 or more of the following 3 categories: (1) “human trafficking” was a general maltreatment code for both labor and commercial sexual exploitation forms of human trafficking, (2) “human trafficking-commercial sexual exploitation of a child” (CSEC) was used for cases in which the allegations appear to involve commercial sexual exploitation of a child, and (3) “human trafficking-labor” was used for cases in which the allegations appear to involve issues associated with labor trafficking,

slavery, or servitude that do not appear to be sexual in nature.²¹ We coded approximately 45% of human trafficking reports as human trafficking-unspecified, 52% as human trafficking-CSEC, and 4% as human trafficking-labor. Because of changes in the classification of trafficking reports during the study period, we grouped all youths who had trafficking reports into 1 category. We replicated the multivariate analyses with each subgroup to confirm that results of the analyses were consistent across all cases regardless of labeling.

Analytic Plan

We created a comparison group using a one-to-one matching procedure to find an exact match for each of the 913 youths who had a human trafficking abuse report. We used SPSS²⁴ and found exact matches from the data set of 68 218 justice-involved youths for gender, race, age of first offense, need for special education, and family income. Additionally, we found exact matches for 901 of 913 youths on judicial district.

We retained the youths who did not have exact matches on judicial circuit in the sample with one-to-one matches on the remaining matching variables. Once we completed matching, we compared the 2 subgroups to ensure that there were no significant differences on the matching variables. We conducted bivariate analyses comparing the prevalence of occurrences of specific ACE types and the total number of ACEs experienced by youths who had and those who did not have a trafficking report. Next, we estimated separate binary logistic regressions for boys and girls.

We used odds ratios to estimate the likelihood of victimization in human trafficking on the basis of each type of ACE.

RESULTS

Characteristics of youths in the full sample and the human trafficking subsample are displayed in Table 1. Table 1 also displays results of the bivariate analysis of sample youths who had human trafficking reports

TABLE 1—Descriptive Statistics and Bivariate Analyses Comparing Youths Who Had Human Trafficking Abuse Reports With the Full Sample and With the Matched Sample: Florida, 2009–2015

Demographics and Matched Variables	With Human Trafficking Report, % (n = 913)	Without Human Trafficking Report, % (n = 67 305)	P	Without Human Trafficking Report Matched Sample, % (n = 913)	P
Gender			< .001		≥ .99
Male	12.3	78.2		12.3	
Female	87.7	21.8		87.7	
Race/ethnicity			.43		≥ .99
Non-Hispanic White	36.8	36.1		36.8	
Non-Hispanic Black	49.5	48.3		49.5	
Hispanic	13.4	15.3		13.4	
Other	0.3	0.4		0.3	
Age at first offense, y			< .001		≥ .99
≤ 12	28.9	27.0		28.9	
13–14	47.4	38.0		47.4	
15	14.9	16.9		14.9	
16	7.3	11.5		7.3	
> 16	1.4	6.6		1.4	
Need of special education	36.8	33.0	.02	36.8	≥ .99
Family income is < \$15 000	44.1	29.1	< .001	44.1	≥ .99
Judicial circuit, rank			< .001		≥ .99
Top	17th/Broward, 12.5	11th/Dade, 9.7		17th/Broward, 12.2	
2nd	11th/Dade, 10.1	13th/Hillsborough, 8.2		11th/Dade, 10.0	
3rd	9th/Orange/Osceola, 9.7	6th/Pasco/Pinellas, 8.1		9th/Orange/Osceola, 9.7	
4th	13th/Hillsborough, 9.0	9th/Orange/Osceola, 8.0		13th/Hillsborough, 9.0	
5th	6th/Pasco/Pinellas, 8.0	17th/Broward, 7.6		6th/Pasco/Pinellas, 8.0	

and the matched sample. After matching, there were no significant differences between the 2 groups on any matching variables.

Bivariate Analysis

In bivariate analyses, we compared youths who had trafficking reports with the matched sample on all ACEs and the composite ACE score. Six ACEs and the composite ACE score were significantly higher in the subsample of youths who had trafficking reports. More specifically, ACEs indicative of child maltreatment—emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, and family violence—were all more prevalent among youths who had trafficking reports. Youths who had trafficking reports also experienced other forms of childhood adversity but not at significantly higher rates than did those in the matched sample. Additionally, the average composite ACE score of trafficked youths (mean = 4.45; SD = 1.82) was higher than was the score of the matched sample (mean = 3.77; SD = 1.91; $t(1824) = 7.89$; $P < .001$).

In comparative analyses, we found no significant differences between the prevalence of ACEs among youths on the basis of the results of the child protective investigations on 9 of the 10 ACEs. The only ACE item with a significant difference across youths on the basis of child protective investigation case classification was sexual abuse, with cases classified as verified having the highest percentage (58%), not substantiated with a lower percentage (49%), and cases with no indicator or open having the lowest percentage (44%). In a post hoc analysis, we found that the significant difference was limited to verified cases in comparison with cases classified as no indicator or open. (Results are available upon request.)

Multivariate Analysis

On the basis of the results of the bivariate model, we included ACEs in the multivariate model that we found to be significantly more common among youths who had human trafficking reports than did the matched sample. We used binary logistic regression to examine the influence of ACEs on human trafficking using the full sample, the girl-only subsample, and the boy-only subsample.

We found that the ACEs that influence risk for girls are different from those that influence risk for boys. All forms of child maltreatment except physical abuse and emotional abuse were predictive of human trafficking for girls (Table 2). When we controlled for other ACEs, we found that the odds of exploitation in human trafficking were 0.73 times lower for girls reporting physical abuse. To explore this finding further, we compared observed mean probabilities of having a human trafficking report for the subgroups of girls who experienced neither sexual abuse nor physical abuse (0.41), physical abuse only (0.44), sexual abuse only (0.69), and both physical and sexual abuse (0.60). Although physical abuse was associated with human trafficking in the bivariate analysis, once sexual abuse is taken into account, physical abuse is shown to reduce the likelihood of human trafficking, suggesting a suppressing and moderating effect of sexual abuse.²⁵ Girls who experienced sexual abuse or sexual abuse and physical abuse were at higher risk. Girls who experienced physical abuse only were not at greater risk.

Among boys, only emotional abuse and sexual abuse were significantly associated with trafficking (Table 3). The odds of exploitation in human trafficking were 2.55 times greater for boys experiencing emotional abuse and 8.21 times greater for boys reporting sexual abuse.

We ran supplemental binary logistic regression models to assess whether the inclusion of cases classified by child protective investigators as no indicator or open affected the results of the binary logistic regression. Excluding this subset of cases did not change the results of the binary logistic regression in terms of the statistical significance of the predictors. Additionally, we ran binary logistic regression models with subsamples of youths on the basis of the human trafficking type classification used by the Department of Children and Families hotline during various years of the study (human trafficking–CSEC and human trafficking–unspecified). The results of the analyses with the human trafficking–unspecified cases showed no changes in terms of the statistical significance of the predictors in comparison with the results using the full sample. The results of the analysis with the human trafficking–CSEC were similar to the results

TABLE 2—Association of ACE Variables With Human Trafficking Report Among Girl Matched Sample: Florida, 2009–2015

ACEs	Human Trafficking, No.		OR (95% CI)
	Yes	No	
Emotional abuse			
Yes	333	299	1.03 (0.82, 1.30)
No	468	502	1 (Ref)
Physical abuse			
Yes	357	290	0.73 (0.56, 0.94)
No	444	511	1 (Ref)
Sexual abuse			
Yes	405	240	2.33 (1.83, 2.98)
No	396	561	1 (Ref)
Emotional neglect			
Yes	300	225	1.37 (1.10, 1.71)
No	501	576	1 (Ref)
Physical neglect			
Yes	225	135	1.55 (1.20, 2.01)
No	576	666	1 (Ref)
Family violence			
Yes	705	633	1.51 (1.09, 2.09)
No	96	168	1 (Ref)

Note. ACE = adverse childhood experience; CI = confidence interval; OR = odds ratio. The sample size was $n = 1602$.

of the binary logistic regression with the girl-only sample. (Results of the supplemental analyses are available upon request.)

DISCUSSION

The examination of childhood adversities linked to victimization in human trafficking indicates that sexual abuse is the most damaging type of child maltreatment that creates susceptibility to exploitation among both boys and girls. On average, youths who had trafficking reports had higher ACE scores than did youths in the matched sample. However, when controlling for other ACEs in a single multivariate model, sexual abuse was the strongest predictor of human trafficking for both boys and girls. These findings aligned with the conclusions of other researchers who have noted that although cumulative trauma is more harmful than is singular instances of trauma, sexual abuse may be a particularly

TABLE 3—Association of ACE Variables With Human Trafficking Report Among Boy Matched Sample: Florida, 2009–2015

ACEs	Human Trafficking, No.		OR (95% CI)
	Yes	No	
Emotional abuse			
Yes	47	29	2.55 (1.23, 5.29)
No	65	83	1 (Ref)
Physical abuse			
Yes	49	19	1.83 (0.81, 4.14)
No	63	93	1 (Ref)
Sexual abuse			
Yes	47	8	8.21 (3.20, 21.05)
No	65	104	1 (Ref)
Emotional neglect			
Yes	30	22	0.83 (0.39, 1.76)
No	82	90	1 (Ref)
Physical neglect			
Yes	23	15	0.90 (0.38, 2.14)
No	89	97	1 (Ref)
Family violence			
Yes	94	84	0.57 (0.26, 1.26)
No	18	28	1 (Ref)

Note. ACE = adverse childhood experience; CI = confidence interval; OR = odds ratio. The sample size was $n = 224$.

strong form of childhood trauma that functions as a “gateway” trauma initiating increased exposure to other forms of victimization.^{26,27} Additionally, this aligns with a substantial body of research focused on the CSEC, the most commonly researched form of human trafficking, which has repeatedly noted the association between sexual abuse and CSEC.²

For girls, the impact of neglect on human trafficking also confirms previous research regarding the role of emotional and physical neglect in victimization. Neglect results in a lack of caregiver protection, increasing the likelihood that children will seek affection and support outside their family, thereby escalating youths’ exposure to other types of victimization.²⁸ According to research on the victim selection patterns of sex offenders²⁹ and sex traffickers,^{5,8} these perpetrators seek out children who are neglected and in need of help. Exposure to family violence was also found to increase the risk of human trafficking among girls in the sample. This finding aligns with previous research indicating that girls

who reside in families experiencing high levels of adversity, such as conflict between caregivers, were at higher risk for exploitation in sex trafficking.^{2,7,28}

For girls, physical abuse (after controlling for other childhood adversities) was found to have a negative impact on the risk of human trafficking. Previous studies similarly have found a positive association between physical abuse and CSEC or prostitution at the bivariate level and a negative or no association between physical abuse and CSEC or prostitution or other maladaptive sexual behavior when sexual abuse was included in a multivariate model.^{28,30–33} These findings indicate that the detrimental impacts of childhood adversities on the risk of human trafficking vary and that cumulative effects are complex and do not simply stem from an additive process.

When we analyzed the boy-only sample, we found that sexual abuse and emotional abuse were predictive of human trafficking, suggesting that some predictors are similar for boys and girls. However, trafficked boys may become vulnerable to human trafficking because of emotional abuse rather than neglect. This aligns with research using a sample of predominately male youths that linked commercial sexual exploitation to symptoms of social alienation and withdrawal from others.⁷

Limitations

Although the use of a relatively large sample and a matched comparison group provides a more comprehensive representation of the childhood adversities linked to exploitation in human trafficking, our sample was composed of juvenile justice-involved youths and does not reflect an all-inclusive sample of youths exploited in trafficking. We did not include trafficked youths who were not involved in juvenile justice or those who were involved with the juvenile justice system because of minor offenses in the study sample.

Other limitations of our study are related to the varying categorization of youths by form of human trafficking (sex or labor trafficking), resulting in a limited ability to assess differences that may exist between childhood histories of those exploited in labor versus sex trafficking.

Additionally, contextual information related to childhood adversities, such as the

duration, victim relationship with perpetrator, or severity of abuse, was not available in the C-PACT data. Therefore, we were not able to identify specific, interactive pathways into human trafficking, a common limitation in the research. Future studies with detailed, contextual data regarding the childhood adversities of trafficked and nontrafficked girls and boys could contribute to our understanding of contextual factors surrounding childhood adversity that elevate the risk of exploitation in human trafficking.

Public Health Implications

Maltreated youths, disadvantaged because of harmful family conditions, are more susceptible to further victimization and exploitation in human trafficking. One overarching purpose of ACE research is to inform screening tools or methods of identifying youths who may need additional support to prevent the development of subsequent health and behavioral difficulties. Because of limited and shrinking resources for children, it is critical to isolate the unique effects and alternative developmental trajectories for girls and boys exploited in human trafficking.²⁷

Child protective workers, therapists, victim advocates at child advocacy centers, school counselors, and juvenile justice professionals are often among the first points of contact, and they conduct assessments for maltreated youths. Screening tools, assessment procedures for identifying victims of human trafficking, and training child advocacy staff to identify boys and girls exploited in human trafficking are in the early stages of development throughout the United States.³⁴ Our findings serve to inform these tools and identification efforts.

The results of this ACE study indicate that maltreated youths, particularly those with a history of sexual abuse in the context of experiencing a higher than average number of childhood adversities, face heightened susceptibility to human trafficking and may be best served by receiving human trafficking prevention education. Prevention education has been shown to be effective at reducing adolescent risk behavior in high-risk youths, particularly if the prevention program includes parental monitoring.³⁵ Importantly, the early age of exploitation onset in human trafficking that we found among youths

highlights the importance of early adolescence as a critical period for prevention. **AJPH**

CONTRIBUTORS

J. A. Reid conceptualized the project and its design, developed the design and study methodology, and performed the majority of the statistical analyses. J. A. Reid, M. T. Baglivio, and A. R. Piquero drafted significant portions of the article. M. T. Baglivio participated in the design of study methodology and edited the article. A. R. Piquero consulted on statistical analysis and coordinated article editing. M. A. Greenwald assisted in drafting the article, provided editorial support and insight into the juvenile justice system, procured the data, and obtained approval for use of the data. N. Epps cleaned the data, was integral in the creation of specific measures, and provided editorial support. All authors edited and approved the final version of the article.

HUMAN PARTICIPANT PROTECTION

This study was approved by the Florida Department of Juvenile Justice institutional review board and exempted by the University of South Florida institutional review board.

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