

RESEARCH ARTICLE

Family Problems, Mental Health and Trauma Experiences of Justice-Involved Youth

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Abstract

Youth involved in the justice system remain an underserved population at elevated risk for multiple problems, including substance abuse, mental health, and sexually transmitted infections. Many of these youth have experienced painful childhoods involving multiple forms of victimization, including abuse and exposure to trauma. Among the causes of the problems of these youth, family issues remain significant factors needing increased elucidation. Using data on male and female youth entering the justice system, we studied the relationships among: (1) family member alcohol abuse, family member other drug abuse, and biological parent spending time in jail or prison, and (2) youth involvement in bullying, experience of depression, being sexually assaulted, and alcohol/other drug involvement in the past year. Results indicated family problems of alcohol use, drug use, and parental incarceration were positively correlated across both genders; and youth problems of drug use, depression, bullying, and sexual assault were also generally positively associated with one another across gender. Gender differences were found in the prevalence of each of these problem areas, with female youth reporting higher rates of family alcohol and other drug abuse problems, parental incarceration, involvement in bullying, being sexually assaulted, and depression, than male youth. There were significant relationships between a number of family problems and youth problems, with gender differences in a number of these relationships. For example, among boys, no family problem factors were related to being sexually assaulted, whereas among girls a significant, positive relationship was found between family alcohol problems and being sexually assaulted. Practice implications of the findings are discussed.

Keywords: Family problems and youth trauma; justice-involved youth; juvenile arrestee mental health and other trauma issues; male and female youth family problems and trauma experiences

Introduction

Youth involved in the juvenile justice system remain an understudied and underserved population at markedly elevated

risk for multiple problems, involving substance abuse, mental health, and sexually transmitted infections, including HIV (see, for example: Dembo & Walters, 2012;

Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Teplin et al., 2005). Many of these youth have experienced painful childhoods involving multiple forms of victimization including abuse and exposure to trauma (Ford, Cruise, & Grasso, 2017).

Among the causes of the problems of these youth, family issues remain significant factors needing increased elucidation. This is especially the case in light of the growing understanding of the distressed and dysfunctional families many of these youths grow up in, and the short and long-term impact of their exposure to the trauma of emotional, physical and/or sexual abuse in these settings. As Ford et al. (2017) have noted, detained youth exposed “to multiple types of victimization, interpersonal violence, and loss ... have more severe emotional, behavioral, interpersonal, and school problems than other justice-involved youth.” (p.1) First responders, social services, and juvenile justice systems have begun to recognize the need for adopting a trauma informed focus (e.g., Ko et al., 2008; Ford & Blaustein, 2012; Ford, Kerig, Desai & Feierman, 2016) to address the effects of traumatic experiences on youth. This focus is seriously needed, as available evidence indicates over 90% of justice-involved youth report exposure to at least one kind of traumatizing experience, with exposure to multiple traumas being common (e.g., Abram et al., 2004; Dierkhising et al., 2013). The effectiveness of these behavioral health responses could be improved by a greater understanding of the family dynamics that impact emotional-psychological functioning of justice-involved youths and their traumatizing experiences (Riggs Romaine, Sevin Goldstein, Hunt, & DeMatteo, 2011).

Parental Incarceration and Impact on Children

Incarceration rates in the U.S. have increased significantly in recent decades (The Sentencing Project, 2017), with the

War on Drugs fueling this dramatic growth. The Sentencing Project (2017) indicates that since 1980, the “number of women in prison has been increasing at a rate 50 percent higher than men... As of 2015, 2.2 million people were in the nation’s prisons or jails, a 500% increase over the last 40 years” (p. 2). Inmates in the U.S. often demonstrate problem behavior beyond their offending. For example, high rates of alcohol abuse and other drug abuse frequently exist among persons with incarceration experience. A National Center on Addiction and Substance Abuse report (2010) found most U.S. inmates suffer from substance abuse or addiction, with 65% of inmates meeting criteria for substance abuse, but only 11% receiving any addiction treatment. In particular, among the 2.3 million U.S. inmates in 2010, an estimated 1.5 million suffered from substance abuse addiction, while another half million had histories of substance abuse or were incarcerated due to crimes related to their substance use (e.g., drug offense, violation of sanctions for drug offense, or offense committed to feed drug habit). Together, these two groups accounted for 85% of the U.S. prison population. Further, alcohol and other drug abuse often co-occur with mental illness among inmates (American Psychological Association, 2014). A recent, related Bureau of Justice Statistics report indicates 63% of sentenced jail inmates in 2007-2009 met *DSM* criteria for drug dependence or abuse, a rate many times higher than the 5% rate of the total U.S. general population aged 18 or older (Bronson, Strop, Zimmer, & Berzofsky, 2017).

Incarceration of a parent often has profound consequences on children (Davis & Shlafer, 2017). If the incarcerated parent is the primary caregiver, the child may be uprooted, separated, moved to relatives in different areas, or placed in the foster care system. A mother’s incarceration may be particularly traumatic for the child, as

mothers tend to be the primary source of caregiving and socialization (e.g., Beatty, 1997; Bloom, 1995; Mumola, 2000). Removal of one or both parents from the home can also lead to serious financial hardships for the family left behind (e.g., Beatty, 1997; Bloom, 1995; Mumola, 2000). The child may develop self-blame and anger concerning the parent's incarceration, as well as other mental health problems (Kampfner, 1995; Snyder, Carlo, & Coats Mullins, 2001; Swisher & Shaw-Smith, 2015).

A family's well-being is essential for a child's psychosocial adjustment (Roustit, Campoy, Chaix, & Chauvin, 2010). The Adverse Child Experience (ACE) study of over 13,000 adults (Felitti et al., 1998) examined seven categories of ACEs (psychological, physical, or sexual abuse; violence against mother; living with household members who were substance abusers, mentally ill or suicidal; or ever imprisoned). When compared with measures of adult risk and behavior, results indicated graded relationships between the number of categories of childhood exposure and various health risk conditions and diseases (including alcoholism, drug abuse, depression, and suicide attempts). Further, Ford et al. (2017) reported 41% of detained youth in their study witnessed the arrest of a family member, and having a biological parent spend time in jail or prison is a common experience among justice-involved youth.

Parental Substance Use and Impact on Children

Having an incarcerated parent does not necessarily mean the parent also engages in substance use. Given the increased prevalence of substance use among the incarcerated population in the U.S., however, children of incarcerated parents may be at greater risk of exposure to

parental substance use/abuse. Children living in homes where a biological parent has had incarceration experiences are also often exposed to family alcohol or other drug abuse issues (Mumola, 2000). Growing up in a dysfunctional household where alcohol is misused or illicit drugs are used by family members is associated with the child's own drug use in later life, and increases their risk of mental health problems, including depression, being a victim of physical or sexual violence, and bullying (Eiden, Ostrov, Colder, Leonard, Edwards & Orrange-Tocchis, 2010) and being otherwise maltreated (e.g., Amstadter et al., 2011; Atkinson et al., 2009; Dube et al., 2001; Hanson et al., 2006; Walsh, MacMillan, & Jamieson, 2003; Widom, 1997). Parent alcohol and other drug abuse have also been found to be significant risk factors in child maltreatment (Choenni, Hammink, & van de Mheen, 2017; also see: Lovallo et al., 2013).

Youth Drug Use, Depression, Involvement in Bullying and Being Sexually Assaulted

Adolescents involved in the juvenile justice system experience a disproportionate prevalence of serious mental health issues, substance use, and other problems (Freudenberg, 2009; Teplin et al., 2002, 2005). Research indicates depressed mood is associated with conduct problems (e.g., Angold & Costello, 1993; Capaldi & Stoolmiller, 1999), which tend to overlap with juvenile delinquency. Studies of justice-involved youth find higher prevalence rates of depression and other mental health disorders, compared to that among the general population of youth (e.g., Abram, Teplin, McClelland, & Dulcan, 2003; Teplin et al., 2005). For example, Teplin and associates (2002) found two-thirds of detained boys and three-quarters of detained girls were experiencing psychiatric disorders. In general, girls are twice as likely as boys to develop major depressive

disorders and other serious affective problems (see e.g., Lakdawalla, Hankin, & Mermelstien, 2007). Furthermore, depression has been linked to risky sexual behaviors (e.g., Teplin et al., 2005) and substance use (e.g., Abram et al., 2003; Stein et al., 2011) among justice-involved adolescents.

Mental health problems are associated with the use of marijuana, a drug most often used by justice-involved youth (e.g., Bovasso, 2001; Chen, Wagner, & Anthony, 2002; Hallfors, Waller, Bauer, Ford, & Halpern, 2005; McGee, Williams, Poulton, & Moffitt, 2000). Longitudinal studies of adolescents demonstrate increased marijuana use is related to increased symptoms of depression over time (e.g., Horwood et al., 2012; Patton et al., 2002). When examining sex differences, most studies find the relationship between depression and marijuana use is stronger for boys, than girls (Repetto, Zimmerman, & Caldwell, 2008; Wilkinson, Halpern, & Herring, 2016). Studies of justice-involved youth have also revealed comorbidity in marijuana use and depression (e.g., Abram et al., 2003; Stein et al., 2011).

In addition to experiencing problems with substance use and mental health problems, justice-involved adolescents may be victims of harassment and assault. Bullying is quite prevalent in the U.S. A 2015 national survey found that 20% of high school students reported being bullied on school grounds in the previous 12 months (CDC, 2016). Bullying has been found to be related to other forms of problem behavior, such as vandalism, shoplifting, and fighting (Office of Juvenile Justice and Delinquency Prevention [OJJDP], 2001). In fact, bullying can be seen as a precursor to more antisocial and rule breaking behavior (OJJDP, 2001). Justice-involved youth have elevated prevalence rates of bullying experiences

(Ford et al., 2017; Ford, Grasso, Hawke, & Chapman, 2013).

Involvement in bullying is associated with mental health problems, including depression (Coolidge, DenBoer, & Segal, 2004; Kumpulainen, Rasanen & Henttonen, 1999; Vaughn et al., 2010), as well as substance use—especially alcohol and cannabis use/abuse (Vaughn et al., 2010; also see: CDC, 2016; Shetgiri, 2013). Bully-victims (those who bully others and are bullied themselves) seem to have the highest prevalence of these associated problems (Shetgiri, 2013). In addition, bullying has been found to lead to adult criminal behavior (Olweus & Limber, 1999).

Child sexual abuse is more prevalent than generally realized, with an estimated 1 in 7 girls and 1 in 25 boys being sexually victimized prior to age 18 (Townsend & Rheingold, 2013). Justice-involved youth have an elevated rate of sexual abuse experiences (Ford et al., 2017). National crime statistics indicate juveniles comprise two-thirds of the victims of sex crimes (Finkelhor & Shattuck, 2012); and the younger the child the greater the odds the abuser is a family member (Snyder, 2000). Sexually abused children are at increased risk of mental health issues (Finkelhor, Ormrod, Turner & Hamby, 2012; Kilpatrick et al., 2003), risky sexual behavior, including STDs and HIV (Girardet et al., 2009), alcohol and drug abuse problems (Acierno et al., 2000; Briere & Elliott, 2003; Walker et al., 1999), and bullying (Shetgiri, 2013). In fact, substance abuse and mental health problems are a common consequence for adult survivors of child sexual abuse (Day, Thurlow & Woolliscroft, 2003; Kendler et al., 2000).

Gender Effects

The literature highlights the importance of considering gender differences when examining the prevalence and effects of

parental incarceration, family member alcohol use, and family member other drug abuse on adolescents' drug use, mental health, and maltreatment. In particular, girls may be more prone to express internalizing symptoms (e.g., depression), whereas boys may express externalizing symptoms (Swisher & Shaw-Smith, 2015). Girls report higher rates of sexual assault (Duke, Pettingell, McMorris & Borowsky, 2010), than boys; while boys report higher rates of witnessing violence (Cauffman, Feldman, Waterman & Steiner, 1998; Dierkhising et al., 2013; Foy, Ritchie, & Conway, 2012). Boys are more likely than girls to be the targets and perpetrators of bullying (Nansel et al., 2001; also see: Tsitsika et al., 2014).

The Tested Model

The present study uses data from a fairly large number of youth entering the justice system following arrest that includes information on family problems and youths' psychosocial and trauma related experiences. Informed by the aforementioned literature,

this study examined relationships among: (1) family member alcohol abuse, family member other drug abuse, and biological parent spending time in jail or prison, and (2) youth involvement in bullying, experience of depression, being sexually assaulted, and alcohol/other drug involvement in the past year. Further, the effects of the family/parent problem variables on the youths' substance use, depression, bullying, and sexual assault experiences were examined. Figure 1 illustrates the model used to test these hypothesized relationships. Finally, consistent with research indicating gender group differences in the prevalence, correlates, and consequences of youths' involvement in bullying, experiences of depression, sexual assault, and alcohol/other drug use, it was hypothesized there would be gender differences in the relationships in the model. Accordingly, a cross-gender, multi-group estimation of the model was performed. Following a discussion of the method and results, service and practice implications are discussed.

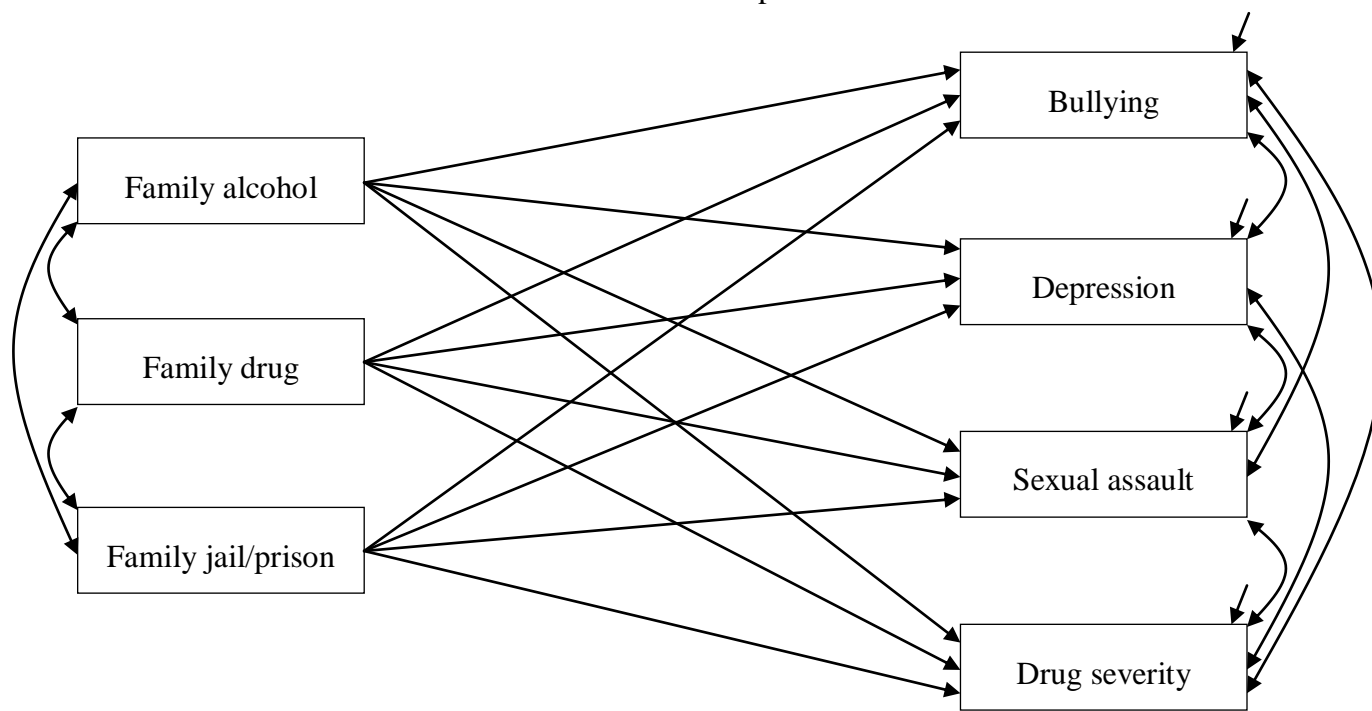


Figure 1. Relationship of Family Member Alcohol Use Problem, Family Member Other Drug Abuse Problem, and Biological Parent in Prison or Jail to Youth Trauma Issues

Method

Project Setting: Juvenile Assessment Center (JAC) Health Coach Services

The study data were collected in an innovative, comprehensive Health Coach service for youth entering Juvenile Assessment Centers (JACs), centralized intake facilities, in two southeastern U.S. cities. Every juvenile arrested for a crime in the service areas of the JACs is taken to the JAC for intake processing; youths who are charged by the State Attorney's Office but not arrested may also be processed at the JAC. At intake, each youth is assessed for risk and interviewed about her/his crime by JAC intake personnel, after which s/he is either released to a parent's custody or detained, depending on level of risk and offense. During the intake process at each of the two JACs, youths are also approached by Health Coach service staff. This service has three major goals (Dembo, DiClemente, & Brown, et al., 2016). First, it offers HIV evidence-based risk reduction information and education to youth using a gender and developmentally appropriate online curriculum. Second, urinalysis (via the EMIT procedure) is performed for recent drug use, as well as rapid testing for HIV (via mouth swab), urine testing for other STDs, and testing for Hepatitis C, when indicated. Third, the service follows up with youth and provides prompt, appropriate linkage to treatment for those who are drug-involved, test positive for HIV or other STDs, or screen high on an evidence-based depression inventory (Melchior, Huba, Brown, & Reback, 1993). As discussed below, sociodemographic information is collected as well as information on sexual risk behavior, depression, and drug involvement in the past 12 months via the Texas Christian University (TCU) Drug Screen V (Institute for Behavioral Research, 2014), which is keyed to *DSM-V* criteria. The Health Coach service involves

collaboration with the Department of Health (DOH), links youth needing follow-up care with community-based services, and exposes Health Coach served youth to an evidence-based STD/HIV intervention program. Youth with positive drug test results or elevated depression assessment scores—discussed in the measures section—are eligible for referral to an on-site therapist for rapid, follow-up care.

Procedures

The study data were collected by JAC Health Coaches on or from youth clients they served. Health Coaches are trained to follow a detailed data collection and service delivery protocol. Data collection and entry are routinely monitored for integrity and quality by the Program Manager. The electronic data from the Health Coaches were de-identified. Then, the de-identified data were given to the research team for analysis purposes; therefore, the Institutional Review Board (IRB) did not consider this a study involving human subjects. The participants were not compensated for their involvement in the study. The intake assessment center is separate from the court process.

The State requires a time limit of six hours to process youth at each of the JACs. The need to adhere to law enforcement booking procedures, as well as Health Coach detailed data collection and service delivery protocols, prevented the use of extensive measures but relied primarily on the use of yes/no questions for presence of family and youth problems and experiences. This affects the variability of indicators used in the present study.

Participants

Participants in the current study received Health Coach services from January 1, 2017 through March 31, 2017 at two Health

Coach JAC locations. The 946 youth represented 94% of youth receiving Health Coach services on at least one occasion only during this period of time. Sixty-one youth entered the JAC more than once, during which occasion(s) they received additional Health Coach services. For these multiple entry youth, Health Coach data collected during their first entry were used in the present study.

Participation in this service was purely voluntary. Florida Public Health law does not require youth 12 years and over to obtain parental consent for STD or HIV testing or treatment. Health Coach staff obtained youth consent prior to initiating services. The participation rate to receive Health Coach services exceeded 96% across the two JACs. Consenting youth were interviewed by Health Coaches in private offices at each JAC. Since the Health Coach service refusal rate was near zero, no socio-demographic and other comparisons were pursued between youth agreeing and youth declining to receive services.

Measures

Sociodemographic characteristics. Several demographic characteristics were collected: *age* (in number of years); *gender/sex* (0 = male biological sex; 1 = female biological sex); information on the youths' race/ethnicity (described in more detail in the results section) was coded as *race* (1 = African American, non-Hispanic; 0 = other race, non-Hispanic) and *ethnicity* (1 = Hispanic of any race; 0 = non-Hispanic). None of the sociodemographic variables had missing data.

Family problems. Participating youths were asked the following questions regarding their families: Has any member of your family had problems with alcohol; Has any member of your family had problems with drug abuse; and Have either biological

parent spent time in jail or prison? Responses to each question were coded as: no = 0 and yes = 1.

Youth drug problems. Drug problems were measured using the TCU Drug Screen V (TCUDS V: Institute of Behavioral Research, 2014), which is a detailed, self-report instrument probing use of various drugs and consequences of use based on *DSM-V* criteria during the 12 months prior to JAC entry. Responses to this instrument are scored to produce a single total score ranging from 0 to 11, which is then converted to three severity categories corresponding to *DSM-V* criteria: 1 = mild disorder with score of 2-3 points (i.e., presence of 2-3 symptoms), 2 = moderate disorder with score of 4-5 points, 3 = severe disorder with score of 6 or more points. Another severity category was created corresponding to the presence of fewer than 2 points: 0 = no disorder. None of the cases was missing data for the drug problems severity indicator.

Depression. We used the 8-item, shortened version of the widely used 20-item Center for Epidemiological Studies Depression Scale (CES-D: Radloff, 1977). The 8-item measure resulted from the psychometric work of Melchior et al. (1993), in which they found the 8-item CES-D correlated ($r = .93$) with the full 20-item CES-D. Following are the items used: I felt I could not shake off the blues even with the help from my family and friends; I felt sad; I felt depressed; I thought my life had been a failure; I felt fearful; My sleep was restless; I felt lonely; and I had crying spells. The items were asked regarding the past week as the time frame and were scored as follows: 0 = less than one day, 1 = 1-2 days, 2 = 3-4 days, and 3 = 5-7 days. An additive index was created from the items with total scores ranging from 0 to 24. Although originally developed among a community sample of women (Melchior et al., 1993), previous

psychometric analysis confirmed the soundness of this 8-item measure for use among Health Coach served youth (Dembo, Faber, Cristiano, et al., in review). Further, previous research has found that a depression measure score of 7 or higher is a threshold score indicative of potentially needing clinical intervention (Brown et al., 2014; Santor & Coyne, 1997). Reflective of our interest in identifying youth with potential depression issues, the depression index was dichotomized for subsequent analysis as follows: 0 = scores 0-6; 1 = scores 7-24.

Youth traumatizing experiences. Youths were also asked to self-report experiences with bullying and sexual assault. Specifically, they were asked the following: Have you ever been involved in bullying? and Have you ever been sexually assaulted? Responses to each question were scored as: no = 0 and yes = 1. The question about bullying did not distinguish among perpetrators, victims, and perpetrators/victims of this behavior, only that some form of bullying occurred.

Analytic Strategy

The analyses proceeded in several stages. First, differences across gender were examined for the variables and bivariate relationships between the variables in the hypothesized model (Figure 1). Next, a multi-group analysis of the fit of the model to the data was performed across the female and male youth groups. Since the tested model was just identified, another analysis was conducted to obtain model fit information. Finally, separate analyses for the female and male youths were conducted, studying the relationship of the socio-demographic covariates with the baseline measures of family problems. The analyses

were completed using Mplus Version 8.0 (Muthén & Muthén, 1998-2017). Since the main variables in our analyses were categorical (ordinal or dichotomous), a robust weighted least squares estimator, using a diagonal weight matrix, with mean-adjusted and variance-adjusted chi-square test statistics (WLSMV) was used in these analyses (Muthén & Muthén, 1998-2017). A non-significant chi-square value for WLSMV indicates acceptable model fit. Three fit indices were used to evaluate model fit: comparative fit index (CFI: Bentler, 1990); Tucker-Lewis index (TLI: Tucker & Lewis, 1973); and the root mean square error of approximation (RMSEA: Byrne, 2001). With the exception of age, where one youth was mistakenly scored as 26 and excluded from any analysis, there was no missing information in the data.

Results

Descriptive Statistics and Comparisons across Gender for Variables

As Table 1 shows, most of the youth were male (74%). The youth averaged 16 years in age, and were racially and ethnically diverse. Male and female youth were similar in age. Overall, 50% of the youth were African American and 15% were Hispanic. A majority of male youth were African American, compared to the females (52% vs. 46%, respectively). On the other hand, somewhat more females were Anglo (38%), than the males (34%). A modest proportion of youths (22%) were living with both biological parents at the time of interview, with the largest percent of youth (35%) reporting they were living with their birth mother alone. There was no significant difference between male and female youth in this regard.

Table 1. Male and Female Comparison Covariates

	Male (n = 703 or 704)	Female (n = 242)	Significance
Sociodemographic:			
Age	15.8 (SD = 1.452)	15.7 (SD = 1.407)	N.S.
Ethnicity/race:			
African American	51.8%	45.9%	<i>p</i> < .05
Hispanic	14.6%	15.7%	
Anglo	33.6%	38.4%	
	100.0%	100.0%	
Living with birth mother alone	36.4%	32.6%	N.S.
Risk/problem factors:			
Family alcohol problem	12.4%	24.0%	<i>p</i> < .01
Family drug abuse	13.8%	28.9%	<i>p</i> < .001
Family member in jail/prison	60.4%	69.4%	<i>p</i> < .05
Been involved in bullying	13.5%	26.0%	<i>p</i> < .001
Been sexually assaulted	2.8%	19.4%	<i>p</i> < .001
TCU drug problem severity:			
None	91.8%	90.1%	N.S.
Mild	4.0%	6.2%	
Moderate	1.7%	2.1%	
Severe	2.6%	1.7%	
Depression score 7+	8.4%	23.6%	<i>p</i> < .001

As shown in Table 1, there were significant differences in the three family problem items. Nearly a quarter of the females, compared to 12% of the males, reported a family member had an alcohol abuse problem; 29% of the females versus 14% of the males indicated a member of their family had another drug abuse problem; and an extremely high percent of both gender groups, but more females (69%) than males (60%), reported one of their biological parents had spent time in jail or prison. Each of these differences were statistically significant.

Significant gender group differences were also found in regard to reported involvement in bullying and being sexually assaulted.

Twenty-six percent of the females, compared to 14% of the males, reported being involved in bullying. Nearly one-fifth (19%) of the females versus 3% of the males indicated they had been sexually assaulted.

The distribution of past year drug use severity categories was similar between the two gender groups. The majority of youth were below the threshold of drug use severity classification; and low proportions of each gender group were placed in the mild, moderate or severe groups. Finally, in regard to depression, 24% of the females versus 8% of the males reported experiencing clinical (score of 7+) levels of depression.

Correlations among Variables in the Model for Female and Male Youth

As shown in Table 2, there were significant, positive tetrachoric correlations between 28

of the 42 (67%) pairs of variables in the hypothesized model. In general, the magnitude of relationships tended to be higher among the females than the males.

Table 2. Correlations among Family Problems, Youth Drug Use, Depression, Involvement in Bullying, and Being Sexually Assaulted for Males (Below Diagonal) and Females (Above Diagonal)

	1.	2.	3.	4.	5.	6.	7.
1. Family alcohol problem	--	.833***	.186	.346**	.139	.265*	.375***
2. Family drug abuse	.774***	--	.492***	.488***	.207	.433***	.264*
3. Family jail/prison	.274***	.423***	--	.312*	.175	.197	.149
4. TCU drug severity	.281**	.299***	.328***	--	.336*	.234	.354***
5. Depression	.112	.329***	.033	.450***	--	.347**	.385***
6. Bullying	.153	.135	.204**	.307***	.250**	--	.365***
7. Sexual assault	.053	.186	.113	.457***	.648***	.530***	--

Note. Variable definitions: Bullying = Have you been involved in bullying; Sexual assault= Ever been sexually assaulted.

Two-tailed *p*-values: **p* < .05; ***p* < .01; ****p* < .001.

Results of the Just Identified Model

The results of the multi-group (gender) fit of the model to the data are presented in Table 3. As can be seen, significant, positive relationships (i.e., the WITH effects) existed among the three family problem variables

(alcohol use, other drug abuse, biological parent spending time in jail or prison) among male youth. Similar associations also existed between the pairs of family problems among girls in the study, with the exception of the association between family alcohol use and parent spending time in jail/prison.

Table 3. Model of Family Problems on Youth Experiences of Being Involved in Bullying, Sexually Assaulted, Depression ($n = 946$): Male-Female Multi-Group Comparison Using WLSMV Estimation (Unstandardized Estimates)

Model Results	Estimate	Males		Estimate	Females	
		SE	Estimate/SE		SE	Estimate/SE
Drug severity ON:						
Family alcohol use	0.276	0.189	1.464	0.142	0.243	0.584
Family drug abuse	0.272	0.185	1.467	0.612	0.217	2.827**
Family jail/prison	0.476	0.147	3.237**	0.369	0.225	1.635
Depression ON:						
Family alcohol use	-0.133	0.233	-0.569	0.050	0.263	0.188
Family drug abuse	0.659	0.196	3.358**	0.253	0.256	0.991
Family jail/prison	-0.027	0.140	-0.189	0.221	0.205	1.079
Bullying ON:						
Family alcohol use	0.189	0.189	0.998	0.003	0.237	0.011
Family drug abuse	0.070	0.180	0.390	0.667	0.209	3.184**
Family jail/prison	0.306	0.125	2.440*	0.154	0.190	0.810
Sexual assault ON:						
Family alcohol use	-0.107	0.392	-0.273	0.568	0.222	2.557*
Family drug abuse	0.343	0.347	0.987	0.062	0.234	0.265
Family jail/prison	0.145	0.210	0.692	0.180	0.209	0.861
Family alcohol use WITH:						
Family drug abuse	0.057	0.008	7.554***	0.117	0.012	10.009***
Family jail/prison	0.021	0.007	3.044**	0.020	0.013	1.472
Family drug abuse WITH:						
Family jail/prison	0.033	0.008	4.434***	0.055	0.014	3.874***
Bullying WITH:						
Sexual assault	0.512	0.106	4.836***	0.297	0.104	2.851**
Depression	0.237	0.096	2.469**	0.291	0.103	2.831**
Drug severity	0.253	0.094	2.694**	0.108	0.121	0.891
Sexual assault WITH:						
Depression	0.625	0.093	6.753***	0.345	0.110	3.150**
Drug severity	0.423	0.131	3.224**	0.264	0.115	2.289*
Drug severity WITH:						
Depression	0.419	0.090	4.629***	0.264	0.122	2.167*
Means:						
Family alcohol use	0.124	0.012	9.963***	0.240	0.027	8.734***
Family drug abuse	0.138	0.013	10.607***	0.289	0.029	9.924***
Family jail/prison	0.604	0.018	32.747***	0.694	0.030	23.440***
Variances:						
Family alcohol use	0.108	0.009	11.599***	0.182	0.014	12.755***
Family drug abuse	0.119	0.009	12.624***	0.206	0.012	16.734***
Family jail/prison	0.239	0.004	62.579***	0.212	0.012	18.452***

(continues on next page)

Table 3 (cont.)

Model Results	Estimate	Males		Females		
		SE	Estimate/SE	Estimate	SE	Estimate/SE
Thresholds:						
Bullying	1.321	0.092	14.424***	0.943	0.149	6.311***
Sexual assault	2.027	0.152	13.362***	1.142	0.160	7.138***
Drug severity1	1.748	0.106	16.566***	1.753	0.190	9.251***
Drug severity2	2.080	0.114	18.221***	2.251	0.210	10.716***
Drug severity3	2.309	0.125	18.414***	2.598	0.243	10.702***
Depression	1.438	0.107	13.494***	0.960	0.155	6.180***

Note. Variable definitions: Family alcohol use = Family alcohol use problem; Bullying = Have you been involved in bullying; Sexual assault = Even been sexually assaulted. Fit indicators could not be estimated as the model is just identified: $\chi^2 = 0.000$, $df = 0$, $p < 0.001$; RMSEA = 0.000; CFI = 1.000; TLI = 1.000.

Two-tailed p -values: * $p < .05$; ** $p < .01$; *** $p < .001$

In regard to the dependent measures, significant, positive correlations were found between past year drug problems, high level of depression, being involved in bullying, and being sexually assaulted for male youth. A similar pattern of associations was found among female youth, with the exception of the correlation between involvement in bullying and drug problems.

A number of significant relationships were found between the family problem factors and the youths' problem and traumatizing experiences (i.e., the ON effects). Among boys, family drug abuse problems was significantly and positively related to a high level of depression, and a biological parent spending time in jail/prison was significantly, positively related to past year drug problems and involvement with bullying. For boys, none of the family problems were significantly related to experience of sexual assault, net other effects. Among girls, family drug abuse was significantly and positively related to past year drug problems and involvement with bullying, and family alcohol problems was significantly, positively related to being sexually assaulted. For girls, none of the

family problems were related to depression, controlling for other variables in the model.

These relationships are consistent with the literature we reviewed earlier. Overall, these results provide support for the conceptual model. The findings reflect important gender group differences in the influence of family problem factors on youths' drug use, serious depression, and traumatizing experiences. The implications of these findings are considered in the discussion section.

Fit of an Over Identified Model to the Data

Since the tested model was just identified, model fit information could not be obtained. In order to gain an idea of model fit, the regression of past year drug problems on family alcohol problems was eliminated from the model. (There was no significant relationship between these two variables for the female and male youth.) Results indicate an excellent fit of the model to the data: chi-square = 2.86, $df = 2$, $p = 0.24$; RMSEA = 0.030; CFI = 0.998; TLI = 0.956. In particular, all residual correlations were at or near zero. (A copy of these results is

available from the corresponding author upon request.)

Fit of the Model Across the Two JACs

We also tested the model shown in Figure 1 across the two JAC facilities to determine whether regional differences affected the results. Results found very similar results across the two sites. Then, in order to gain an idea of model fit, the regression of high level of depression on family alcohol problems was eliminated from estimation of the model. (There was no significant relationship between these two variables for the two sites.) Results indicated an excellent fit of this over identified model to the data (chi-square = 1.50, $df = 2$, $p = 0.47$; RMSEA = 0.000; CFI = 1.000; TLI = 1.021).

Analysis Involving Covariates

Earlier (Table 1), male and female youth were compared in regard to their

sociodemographic and risk/problem factors. Table 4 presents sociodemographic correlates of the three family problem items across the two gender groups. Several significant associations were found, although for each gender group, the majority of the 12 relationships were nonsignificant. Among boys, Hispanic youth were less likely to report family drug abuse problems or a biological parent spending time in jail/prison, than non-Hispanic youth. African American boys were also less likely to report family drug abuse problems as well as family alcohol use problems, than non-African American boys. Among girls, African Americans were less likely to report family drug abuse problems, than non-African American girls. Girls living with their mother only were less likely to report family alcohol problems or family drug abuse problems, than girls in other living situations.

Table 4. Covariate Effects on Male ($n = 703$) and Female ($n = 242$) Baseline Family Alcohol Use, Family Drug Abuse, and Family Member Incarcerated in Jail or Prison

Covariate	Family alcohol use		Family drug abuse		Family jail/prison	
	Estimate	SE	Estimate	SE	Estimate	SE
Females:						
Age	0.001	0.068	-0.015	0.067	-0.037	0.062
Hispanic (1)	-0.126	0.251	-0.386	0.257	-0.152	0.242
African American (1)	-0.331	0.198	-0.391*	0.195	0.172	0.183
Lives with (1 = mother only)	-0.491*	0.216	-0.784***	0.214	-0.108	0.186
Males:						
Age	-0.005	0.044	-0.028	0.044	-0.022	0.033
Hispanic (1)	-0.354	0.188	-0.391*	0.176	-0.350*	0.147
African American (1)	-0.652***	0.139	-0.725***	0.131	-0.045	0.107
Lives with (1 = mother only)	-0.120	0.138	-0.208	0.138	-0.041	0.102

Note. Two-tailed p -values: * $p < .05$; ** $p < .01$; *** $p < .001$

Further analysis was performed, in which each youth risk/problem factor was regressed on the sociodemographic characteristics of age, being Hispanic, being African American, and living situation. Relatively few significant effects were found (6 of 32 [19%]). The significant effects indicated that, among male youths: (a) Hispanic and African American boys reported less past year drug problems, than non-Hispanic and non-African American boys, respectively; (b) older boys reported a higher risk level of depression, than younger boys; (c) African American boys reported a lower risk level of depression, than non-African American boys; and (d) Hispanic boys reported less involvement in bullying, than non-Hispanic boys. No significant sociodemographic effects on being sexually assaulted were found for boys. Among female youths, older aged girls reported less involvement in bullying, than younger girls. No other significant sociodemographic effects were found for girls. (Due to space concerns, tables reporting the results in this section have been omitted. Copies are available from the corresponding author upon request.)

Experience of Sexual Assault and STDs

Informed by the literature discussed earlier (also see: Thornberry, Henry, Ireland & Smith, 2010), we examined the relationship between the male and female youths' reports of ever being sexually assaulted and ever having an STD. Results indicated a significant gender effect in the results. Among male youths, 5% of boys reporting they were sexually assaulted, compared to 3% not reporting this experience, indicated they ever had an STD (Fisher's Exact Test = N.S.). In contrast, 26% of girls reporting they were sexually abused, versus 11% of those not reporting this experience, claimed to have had an STD (Fisher's Exact Test, $p < 0.001$).

Discussion

The purpose of this study was to examine the associations between family problems and youth problems among justice-involved youth, and gender differences in these problems. Results indicated a good fit of the hypothesized model for the total sample and across gender groups. Overall, family problems of alcohol use, drug use, and parental incarceration were positively correlated across both genders. Further, youth problems of drug use, depression, bullying, and sexual assault were also generally positively associated with one another across gender.

Gender differences were found in the prevalence of each of these problem areas. Female youths reported significantly higher rates of family alcohol and other drug abuse problems, parental incarceration, involvement in bullying, being sexually assaulted, and depression (e.g., Lehrer, Shrier, Gortmaker, & Buka, 2006; Shrier, Harris, & Beardslee, 2002), than male youths.

Importantly, in the multi-group model, there were significant relationships between a number of family problems and youth problems, with gender differences in a number of these relationships. For example, among boys, parent incarceration was significantly related to involvement in bullying, whereas, among girls, family drug abuse problems was significantly associated with bullying involvement. Among boys, no family problem factors were related to being sexually assaulted, whereas among girls a significant, positive relationship was found between family alcohol problems and being sexually assaulted. Unfortunately, due to time restrictions mandated by the JAC intake process, we did not collect information that might elucidate the dynamics underlying the relationships we uncovered; this would seem to be an important issue for future research involving justice-involved youth.

This is particularly the case in regard to the effects of parental incarceration on their children. Murray, Farrington, and Sekol (2012) completed a meta-analytic study of the relationship between parent incarceration and their children's antisocial behavior, mental health issues, drug use, and educational achievement. Results from 40 studies—many of less rigorous methodological quality—found parent incarceration was positively related to children's antisocial behavior, but not drug use, mental health, or educational performance. Murray, Farrington, and Sekol (2012) recommend more rigorous studies on this important topic, with the following statement of urgency: "The number of children experiencing parental incarceration in countries like the United States is unprecedented. Identifying and understanding the possible effects on children is of great importance. It is clear that children with incarcerated parents are at increased risk for antisocial behavior compared with their peers. However, relatively little is known about the causal effects of parental incarceration on children." (p. 193) In addition, they note that criminal justice system reform and national support system reforms may be needed to effectively prevent and respond to the negative consequences of parental incarceration on their children.

Reflecting the experience that sexual behavior problems, including promiscuity, are common consequences of child sexual abuse (e.g., Kellogg, Hoffman, & Taylor, 1999; Noll, Trickett, & Putnam, 2003; Paolucci, Genuis, & Violato, 2001), we found a significantly higher percentage of girls who reported being sexually abused claiming they had an STD, than girls not reporting this traumatic experience. However, limited STD test data prevented us from examining the relationships among biological assay test results for STD infection, youth family problems, and

youths' problems of mental health, drug use, and victimization. Future research should examine these relationships more closely.

Currently, interventions are available for working with families with children experiencing mental health and substance abuse problems (MST, FFT, MDFT), and are promising interventions for justice-involved youth with trauma related issues (e.g., Ford, Steinberg, Hawke, Levine & Zhang, 2012). As well, there are promising attempts to integrate aspects of cognitive behavior therapy with Multidimensional Treatment Foster Care (e.g., Chamberlain, 2003; Smith, Chamberlain, & Mark, 2010) to reduce trauma related symptoms among justice-involved youth. In addition, model interventions have been developed to address bullying in school settings, based on the theory that bullying is a systemic, rather than an individual, problem (Olweus & Limber, 2010). Evidence-based, clinical interventions are also in development, informed by the policy issues developed by the American Academy of Pediatrics and the American Medical Association (e.g., Lyznicki, McCaffree, & Robinowitz 2004; Smith et al., 2009; Shetgiri, 2013). However, there is a need to create holistic, system informed, evidence-based family centered interventions to address the multi-level, interrelated family problem and youth problem experiences for justice-involved youth, in particular, as suggested by the results obtained in this study. As the results of the meta-analytic study conducted by Murray et al. (2012) indicate, the development of such interventions is at an early stage.

There were several limitations to this study. First, there were limitations due to the nature of the sample, which consisted of newly arrested youth in two jurisdictions. Hence, the results of the study cannot be generalized to newly arrested youth in other locations or non-justice-involved youths. Second, the

measures we used were based on self-reports. At the same time, the prevalence rates of the youths' problems are in line with other studies of justice-involved youth, and, in the case of reported parental incarceration, strikingly high. Third, the measures of parental incarceration, family alcohol abuse problems, family drug abuse problems, involvement in bullying, and being sexually assaulted were based on one, dichotomous (yes/no) question. For the reasons discussed earlier, it was not possible to use more elaborate measures of these experiences. Fourth, the analyses were performed on cross-sectional data. Hence, it is not possible to make any causal statements regarding the relationships among the variables we studied.

The findings of this study highlight the multiple problems affecting youth entering the juvenile justice system. The overall prevalence rates of a number of these experiences are of serious concern. It is hoped our findings will contribute to the growing literature in this important subject area, and encourage other researchers to elucidate the dynamics underlying the associations our study identified. There is a clear, urgent need to prevent and remediate the adverse consequences of parental incarceration and family substance use/abuse problems on their children. Primary care physicians can play a critical role in identifying families presenting with incarceration and substance abuse issues, as well as children living in these adverse, high-risk circumstances. Appropriate linkage with care providers would be a great beginning point to intervene in this trauma process, with its long-term, adverse health consequences.

References

Abram, K. M., Teplin, L. A., Charles, D. R., Longworth, S. L., McClelland, G. M., & Dulcan, M. K. (2004).

Posttraumatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry*, *61*, 403-410.

Abram, K. M., Teplin, L. A., McClelland, G. M., & Dulcan, M. K. (2003). Comorbid psychiatric disorders in youth in juvenile detention. *Archives of general psychiatry*, *60*(11), 1097-1108.

Acierno, R., Kilpatrick, D. G., Resnick, H., Saunders, B., De Arellano, M., & Best, C. (2000). Assault, PTSD, family substance use, and depression as risk factors for cigarette use in youth: findings from the National Survey of Adolescents. *Journal of Traumatic Stress*, *13*(3), 381-396.

American Psychological Association. (2014). Incarceration nation. *Monitor on Psychology*, *45*(9). Retrieved from <http://www.apa.org/monitor/2014/10/incarceration.aspx>

Amstadter, A. B., Elwood, L. S., Begle, A. M., Gudmundsdottir, B., Smith, D. W., Resnick, H. S., ... & Kilpatrick, D. G. (2011). Predictors of physical assault victimization: Findings from the National Survey of Adolescents. *Addictive Behaviors*, *36*(8), 814-820.

Angold, A., & Costello, E. (1993). Depressive comorbidity in children and adolescents: Empirical, theoretical, and methodological issues. *American Journal of Psychiatry*, *150*, 1779-1791.

Atkinson, A., Anderson, Z., Hughes, K., Bellis, M. A., Sumnall, H., & Syed, Q. (2009). *Interpersonal violence and illicit drugs*. London: Centre for Public Health.

- Beatty, C. (1997). *Parents in prison: Children in crisis* (Issue Brief). Washington, DC: CWLA Press.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238-246.
- Bloom, B. (1995). Imprisoned mothers. In K. Gabel & D. Johnston (Eds.), *Children of incarcerated parents* (pp. 21-30). New York: Lexington Books.
- Bovasso, G. (2001). Cannabis abuse as a risk factor for depressive symptoms. *American Journal of Psychiatry*, *158*, 2033-2037.
- Briere, J., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse & Neglect*, *27*(10), 1205-1222.
- Bronson, J., Stoop, J., Zimmer, S., & Berzofsky, M. (2017). *Drug use dependence and abuse among state prisoners and jail inmates, 2007-2009*. Washington, DC: United States Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Brown, J. L., Sales, J. M., Swartzendruber, A. L., Eriksen, M. D., DiClemente, R. J., & Rose, E. S. (2014). Added benefits: Reduced depressive symptom levels among African-American female adolescents participating in an HIV prevention intervention. *Journal of Behavioral Medicine*, *37*(5), 912-920. doi:10.1007/s10865-013-9551-4
- Byrne, B. M. (2001). *Structural equation modeling with Amos: Basic concepts, applications, and programming*. Mahwah, NJ: Erlbaum.
- Capaldi, D., & Stoolmiller, M. (1999). Co-occurrence of conduct problems and depressive symptoms in early adolescent boys: III. Prediction to young-adult adjustment. *Development and Psychopathology*, *11*, 59-84.
- Cauffman, E., Feldman, S. S., Waterman, J., & Steiner, H. (1998). Posttraumatic stress disorder among female juvenile offenders. *Journal of the American Academy of Child & Adolescent Psychiatry*, *37*, 1209-1216.
- Centers for Disease Control and Prevention [CDC]. (2016). Youth risk behavior surveillance—United States, 2015. *Surveillance Summaries*, *65*, 1-174. Retrieved from <https://www.cdc.gov/mmwr/volumes/65/ss/ss6506a1.htm>
- Chamberlain, P. (2003). The Oregon multidimensional treatment foster care model: Features, outcomes, and progress in dissemination. *Cognitive and Behavioral Practice*, *10*, 303-312.
- Chen, C-Y., Wagner, F., & Anthony, J. (2002). Marijuana use and the risk of major depressive episode: Epidemiological evidence from the United States National Comorbidity Survey. *Social Psychiatry and Psychiatric Epidemiology*, *37*(5), 199-203. doi:10.1007/s00127-002-0541-z
- Choenni, V., Hammink, A., & van de Mheen, D. (2017). Association between substance use and the perpetration of family violence in industrialized countries. *Trauma*,

- Violence & Abuse*, 18(1), 37.
doi:10.1177/1524838015589253
- Coolidge, F. L., DenBoer, J. W., & Segal, D. L. (2004). Personality and neuropsychological correlates of bullying behavior. *Personality and Individual Differences*, 36, 1559-1569.
- Davis, L., & Shlafer, R. J. (2017). Mental health of adolescents with currently and formerly incarcerated parents. *Journal of Adolescence*, 54, 120-134.
- Day, A., Thurlow, K., & Woolliscroft, J. (2003). Working with childhood sexual abuse: A survey of mental health professionals. *Child Abuse & Neglect*, 27(2), 191-198.
- Dembo, R., DiClemente, R. J., Brown, R., Faber, J., Cristiano, J., & Terminello, A. (2016). Health coaches: An innovative and effective approach for identifying and addressing the health need of justice involved youth. *Journal of Community Medicine & Health Education*. DOI: 10.4172/2161-0711.1000490
- Dembo, R., & Walters, W. (2012). Juvenile assessment centers: Early intervention with youth involved in drug use. In N. Jainchill (Ed.), *Understanding and treating adolescent substance use disorders* (pp. 15-28). Kingston, NJ: Civic Research Institute.
- Dembo, R., Faber, J., Cristiano, J., Wareham, R., DiClemente, R. J., Krupa, J. M., & Terminello, A. (Under review). Psychometric evaluation of a brief depression measure for justice involved youth: A multi-group comparison. *Journal of Child and Adolescent Substance Abuse*.
- Dierkhising, C. B., Ko, S. J., Woods-Jaeger, B., Briggs, E. C., Lee, R., & Pynoos, R. S. (2013). Trauma histories among justice-involved youth: Findings from the National Child Traumatic Stress Network. *European Journal of Psychotraumatology*, 4(1), 1-12. doi:10.3402/ejpt.v4i0.20274
- Dube, S. R., Anda, R. F., Felitti, V. J., Croft, J. B., Edwards, V. J., & Giles, W. H. (2001). Growing up with parental alcohol abuse: Exposure to childhood abuse, neglect, and household dysfunction. *Child Abuse and Neglect*, 25, 1627-1640.
- Duke, N. N., Pettingell, S. L., McMorris, B. J., & Borowsky, I. W. (2010). Adolescent violence perpetration: Associations with multiple types of adverse childhood experiences. *Pediatrics*, 125, e779-e786.
- Eiden, R. D., Ostrov, J. M., Colder, C. R., Leonard, K. E., Edwards, E. P., & Orange-Torchia, T. (2010). Parent alcohol problems and peer bullying and victimization: Child gender and toddler attachment security as moderators. *Journal of Clinical Child & Adolescent Psychology*, 39(3), 341-350.
doi:10.1080/15374411003691768
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., ... & 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.
- Finkelhor, D., & Shattuck, A. (2012). *Characteristics of crimes against*

- juveniles*. Durham, NH: Crimes against Children Research Center.
- Finkelhor, D., Ormrod, R., Turner, H. A., & Hamby, S. L. (2012). Child and youth victimization known to school, police, and medical officials in a national sample of children and youth. *Juvenile Justice Bulletin*, (No. NCJ 235394). Washington, DC: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.
- Ford, J. D., & Blaustein, M. (2012). System self-regulation: A framework for trauma-informed services in residential juvenile justice programs. *Journal of Family Violence*, 28, 655-677.
- Ford, J. D., Cruise, K. R., & Grasso, D. J. (2017). *A study of the impact of screening for poly-victimization in juvenile justice*, (No. NOJ 2012-IJ-CX-0046). Washington, DC: US Department of Justice, Office of Justice Programs.
- Ford, J. D., Grasso, D. J., Hawke, J., & Chapman, J. F. (2013). Poly-victimization among juvenile justice-involved youths. *Child Abuse & Neglect*, 37, 788-800.
- Ford, J. D., Kerig, P. K., Desai, N., & Feierman, J. (2016). Psychosocial interventions for traumatized youth in the juvenile justice system: Clinical, research, and legal perspectives. *Journal of Juvenile Justice*, 5, 31-49.
- Ford, J. D., Steinberg, K. L., Hawke, J., Levine, J., & Zhang, W. L. (2012). Randomized trial comparisons of emotion regulation and relational psychotherapies for PTSD with girls involved in delinquency. *Journal of Clinical Child and Adolescent Psychology*, 41, 27-37.
- Foy, D. W., Ritchie, I. K., & Conway, A. H. (2012). Trauma exposure, posttraumatic stress, and comorbidities in female adolescent offenders: Findings and implications from recent studies. *European Journal of Psychotraumatology*, 3, 17247. doi:10.3402iejpt.v3i0.17247
- Freudenberg, N. (2009). Incarcerated and delinquent youth. In R. J. DiClemente, J. S. Santelli, & R. A. Crosby (Eds.), *Adolescent health: Understanding and preventing risk behaviors* (pp. 339-358). San Francisco, CA: Jossey-Bass.
- Girardet, R. G., Lahoti, S., Howard, L. A., Fajman, N. N., Sawyer, M. K., Driebe, E. M.,... Hammerschlag, M. R. (2009). Epidemiology of sexually transmitted infections in suspected child victims of sexual assault. *Pediatrics*, 124(1), 79-86.
- Hallfors, D. D., Waller, M. W., Bauer, D., Ford, C. A., & Halpern, C. T. (2005). Which comes first in adolescence—Sex and drugs or depression? *American Journal of Preventive Medicine*, 29(3), 163-170. doi:10.1016/j.amepre.2005.06.002
- Hanson, R. F., Self-Brown, S., Fricker-Elhai, A., Kilpatrick, D. G., Saunders, B. E., & Resnick, H. (2006). Relations among parental substance use, violence exposure and mental health: the national survey of adolescents. *Addictive Behaviors*, 31(11), 1988-2001.
- Horwood, L. J., Fergusson, D. M., Coffey, C., Patton, G. C., Tait, R., Smart, D.,...Hutchinson, D. M. (2012). Cannabis and depression: An integrative data analysis of four

- Australian cohorts. *Drug and Alcohol Dependence*, 126(3), 369-378.
- Institute of Behavioral Research. (2014). *TCU drug screen V (TCUDS V)*. Ft. Worth, TX: Texas Christian University, Institute of Behavioral Research.
- Kampfner, C. J. (1995). Post-traumatic stress reactions in children of imprisoned mothers. In K. Gabel & D. Johnston (Eds.), *Children of incarcerated parents* (pp. 21-30). New York: Lexington Books.
- Kellogg, N. D., Hoffman, T. J., & Taylor, E. R. (1999). Early sexual experiences among pregnant and parenting adolescents. *Adolescence*, 34(134), 293.
- Kendler, K. S., Bulik, C. M., Silberg, J., Hettema, J. M., Myers, J., & Prescott, C. A. (2000). Childhood sexual abuse and adult psychiatric and substance use disorders in women: An epidemiological and Cotwin control analysis. *Archives of General Psychiatry*, 57(10), 953-959.
- Kilpatrick, D. G., Ruggiero, K. J., Acierno, R., Saunders, B. E., Resnick, H. S., & Best, C. L. (2003). Violence and risk of PTSD, major depression, substance abuse/dependence, and comorbidity: results from the National Survey of Adolescents. *Journal of Consulting and Clinical Psychology*, 71(4), 692.
- Kumpulainen, K., Rasanen, E., & Henttonen, I. (1999). Children involved in bullying: Psychological disturbance and the persistence of the involvement. *Child Abuse & Neglect*, 23, 1253-1262.
- Ko, S. J., Ford, J. D., Kassam-Adams, N., Berkowitz, S. J., Wilson, C., Wong, M.,...Layne, C. M. (2008). Creating trauma-informed systems: Child welfare, education, first responders, health care, juvenile justice. *Professional Psychology-Research and Practice*, 39, 396-404.
- Lakdawalla, Z., Hankin, B. L., & Mermelstien, R. (2007). Cognitive theories of depression in children and adolescents: A conceptual and quantitative review. *Clinical Child and Family Psychology Review*, 10(1), 1-24. doi:10.1007/s10567-006-0013-1
- Lehrer, J. A., Shrier, L. A., Gortmaker, S., & Buka, S. (2006). Depressive symptoms as a longitudinal predictor of sexual risk behaviors among US middle and high school students. *Pediatrics*, 118, 189-200.
- Lovallo, W. R., Farag, N. H., Sorocco, K. H., Acheson, A., Cohoon, A. J., & Vincent, A. S. (2013). Early life adversity contributes to impaired cognition and impulsive behavior: studies from the Oklahoma Family Health Patterns Project. *Alcoholism: Clinical and Experimental Research*, 37(4), 616-623.
- Lyznicki, J. M., McCaffree, M. A., & Robinowitz, C. B. (2004). Childhood bullying: Implications for physicians. *American Family Physician*, 70, 1723-1728.
- McGee, R., Williams, S., Poulton, R., & Moffitt, T. (2000). A longitudinal study of cannabis use and mental health from adolescence to early adulthood. *Addiction*, 95(4), 491-503. doi:10.1046/j.1360-0443.2000.9544912.x
- Melchior, L. A., Huba, G. J., Brown, V. B., & Reback, C. J. (1993). A short depression index for women.

- Educational and Psychological Measurement*, 53(4), 1117-1125. doi:10.1177/0013164493053004024
- Mumola, C. J. (2000). *Incarcerated parents and their children*. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Murray, J., Farrington, D. P., & Sekol, I. (2012). Children's antisocial behavior, mental health, drug use, and educational performance after parental incarceration: A systematic review and meta-analysis. *Psychological Bulletin*, 138, 175-210.
- Muthén, L. K. & Muthén, B. O. (1998-2017). *Mplus user's guide*, 8th edition. Los Angeles, CA: Muthén & Muthén.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *JAMA*, 285(16), 2094-2100.
- National Center on Addiction and Substance Abuse. (2010). *Behind bars II: Substance abuse and America's prison population*. Retrieved from <https://www.centeronaddiction.org/addiction-research/reports/behind-bars-ii-substance-abuse-and-america%E2%80%99s-prison-population>
- Noll, J. G., Trickett, P. K., & Putnam, F. W. (2003). A prospective investigation of the impact of childhood sexual abuse on the development of sexuality. *Journal of consulting and clinical psychology*, 71(3), 575.
- Office of Juvenile Justice and Delinquency Prevention [OJJDP]. (2001). Addressing the problem of juvenile bullying. *OJJDP Fact Sheet*, #27. Washington, DC: U.S. Department of Justice, OJJDP.
- Olweus, D., & Limber, S. P. (1999). Bullying in school: Evaluation and dissemination of the Olweus Bullying Prevention Program. *American Journal of Orthopsychiatry*, 80, 124-134.
- Paolucci, E. O., Genuis, M. L., & Violato, C. (2001). A meta-analysis of the published research on the effects of child sexual abuse. *The Journal of psychology*, 135(1), 17-36.
- Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *The BMJ*, 325, 1195-1198. doi:10.1136/bmj.325.7374.1195
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385-401. doi:10.1177/014662167700100306
- Repetto, P. B., Zimmerman, M. A., & Caldwell, C. H. (2008). A longitudinal study of depressive symptoms and marijuana use in a sample of inner-city African Americans. *Journal of Research on Adolescence*, 18(3), 421-447. doi:10.1111/j.1532-7795.2008.00566.x
- Riggs Romaine, C. L., Sevin Goldstein, N. E., Hunt, E., & DeMatteo, D. (2011). Traumatic experiences and juvenile amenability: The role of trauma in forensic evaluations and judicial decision making. *Child & Youth Care Forum*, 40, 363-380.

- Roustit, C., Campoy, E., Chaix, B., & Chauvin, P. (2010). Exploring mediating factors in the association between parental psychological distress and psychosocial maladjustment in adolescence. *European Child & Adolescent Psychiatry*, 19(7), 597-604.
- Santor, D. A., & Coyne, J. C. (1997). Shortening the CES-D to improve its ability to detect cases of depression. *Psychological Assessment*, 9(3), 233-243. doi:10.1037/1040-3590.9.3.233
- Shetgiri, R. (2013). Bullying and victimization among children. *Advances in Pediatrics*, 60(1), 33-51.
- Shrier, L. A., Harris, S. K., & Beardslee, W. R. (2002). Temporal associations between depressive symptoms and self-reported sexually transmitted disease among adolescents. *Archives of Pediatric and Adolescent Medicine*, 156, 599-606.
- Smith, D. K., Chamberlain, P., & Mark, E. J. (2010). Preliminary support for multidimensional treatment foster care in reducing substance use in delinquent boys. *Journal of Child & Adolescent Substance Abuse*, 19, 343-358.
- Smith, G. A., Baum, C. R., Dowd, M. D., Durbin, D. R., Quinian, K. P., Sege, R. D.,... Wright, J. L. (2009). Policy statement-role of the pediatrician in youth violence prevention. *Pediatrics*, 124, 393-402.
- Snyder, H. N. (2000). *Sexual assault of young children as reported to law enforcement: Victim, incident, and offender characteristics*. A NIBRS Statistical Report. Washington, DC: U.S. Department of Justice, Office of Justice Programs.
- Snyder, Z. K., Carlo, T. A., & Coats Mullins, M. M. (2001). Parenting from prison: An examination of a children's vision program at a women's correctional facility. *Marriage & Family Review*, 32, 33-61.
- Stein, L. A. R., Lebeau, R., Colby, S. M., Barnett, N. P., Golembeske, C., & Monti, P. M. (2011). Motivational interviewing for incarcerated adolescents: Effects of depressive symptoms on reducing alcohol and marijuana use after release. *Journal of studies on alcohol and drugs*, 72(3), 497-506.
- Swisher, R. R., & Shaw-Smith, U. R. (2015). Paternal incarceration and adolescent well-being: Life course contingencies and other moderators. *The Journal of Criminal Law & Criminology*, 104(4), 929-959.
- The Sentencing Project. (2017). *Trends in U.S. corrections*. Retrieved from <http://sentencingproject.org/wp-content/uploads/2016/01/Trends-in-US-Corrections.pdf>
- Teplin, L. A., Abram, K. M., McClelland, G. M., Dulcan, M. K., & Mericle, A.A. (2002). Psychiatric disorders in youth in detention. *Archives of General Psychiatry*, 59(12), 1133-1143. doi:10.1001/archpsyc.59.12.1133
- Teplin, L. A., Elkington, K. S., McClelland, G. M., Abram, K. M., Mericle, A. A., & Washburn, J. J. (2005). Major mental disorders, substance use disorders, comorbidity, and HIV-AIDS risk behaviors in juvenile detainees. *Psychiatric Services*, 56(7), 823-828. doi:10.1176/appi.ps.56.7.823

- Thornberry, T. P., Henry, K. L., Ireland, T. O., & Smith, C. A. (2010). The causal impact of childhood-limited maltreatment and adolescent maltreatment on early adult adjustment. *Journal of Adolescent Health, 46*(4), 359-365.
- Townsend, C., & Rheingold, A. A. (2013). *Estimating a child sexual abuse prevalence rate for practitioners: A review of child sexual abuse prevalence studies*. Charleston, SC: Darkness to Light. Retrieved from www.D2L.org/1in10
- Tsitsika, A. K., Barlou, E., Andrie, E., Dimitropoulou, C., Tzavela, E. C., Janikian, M., & Tsolia, M. (2014). Bullying behaviors in children and adolescents: An ongoing story. *Frontiers in Public Health, 2*(7), 1-4.
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika, 38*, 1-10.
- Vaughn, M. G., Fu, Q., Bender, K., DeLisi, M., Beaver, K. M., Perron, B. E., & Howard, M. O. (2010). Psychiatric correlates of bullying in the United States: Findings from a national sample. *Psychiatric Quarterly, 81*(3), 183-195.
- Walker, E. A., Katon, W. J., Hansom, J., Harrop-Griffiths, J., Holm, L., Jones, M. L.,... Jemelka, R. P. (1992). Medical and psychiatric symptoms in women with childhood sexual abuse. *Psychosomatic Medicine, 54*(6), 658-664.
- Walsh, C., MacMillan, H., & Jamieson, E. (2003). The relationships between parental substance abuse and child maltreatment: Findings from the Ontario Health Supplement. *Child Abuse & Neglect, 27*, 1409-1425.
- Widom, C. S. (1997). Child abuse, neglect, and witnessing violence. In D. M. Stoff, J. Breiling, & J. D. Maser (Eds.), *Handbook of antisocial behavior* (pp. 159-170). Hoboken, NJ: John Wiley.
- Wilkinson, A. L., Halpern, C. T., & Herring, A. H. (2016). Directions of the relationship between substance use and depressive symptoms from adolescence to young adulthood. *Addictive Behaviors, 60*, 64-70. doi:10.1016/j.addbeh.2016.03.036