

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

# Child Abuse & Neglect

journal homepage: [www.elsevier.com/locate/chiabuneg](http://www.elsevier.com/locate/chiabuneg)

## Research article

# Adversity profiles among court-involved youth: Translating system data into trauma-responsive programming<sup>☆</sup>

Patricia Logan-Greene<sup>a,\*</sup>, B.K. Elizabeth Kim<sup>b</sup>, Paula S. Nurius<sup>c</sup>

<sup>a</sup> School of Social Work, University at Buffalo, 685 Baldy Hall, Buffalo, NY 14260, United States

<sup>b</sup> University of Southern California, USC Suzanne Dworak-Peck School of Social Work, 669W 34th St., SWC 218, Los Angeles, CA 90089, United States

<sup>c</sup> University of Washington School of Social Work, 4101 15th Ave NE, Seattle, WA 98105, United States

## ARTICLE INFO

### Keywords:

Probation  
Juvenile justice  
Latent class analysis  
Trauma  
Adverse childhood experiences

## ABSTRACT

**Background:** Court-involved youth have high levels of adverse childhood experiences (ACEs), which can impact functioning in adolescence and throughout adulthood. Yet there is limited research to help clinicians translate these histories into trauma-responsive programming guidelines.

**Objective:** This manuscript utilizes data that is routinely collected to inform practitioners about how to utilize trauma histories to inform program and practice decisions.

**Methods:** This study used administrative data with a diverse sample of medium- to high-risk youth on probation (N = 5,378) to examine how ACE clusters, identified through Latent Class Analysis, evinced differential treatment needs across multiple domains.

**Results:** Six identified classes – Low All, Parental Incarceration, Parental Health Problems, High Conflict, High Maltreatment, and High All – were assessed for differences in self-regulation, mental health, substance use, academic functioning, family/social resources, and behavioral problems. Classes varied significantly on all assessed domains, indicating differential needs for effective interventions to interrupt negative trajectories.

**Conclusions:** Utilizing existing data in a real-world setting and addressing challenges and barriers in real-time can help bring research evidence to practice. In addition to juvenile justice settings, we conclude with discussion of ways that allied community based services in schools, youth programming, and family services can benefit from awareness of these youth adversity profiles.

## 1. Introduction

In 2015, the juvenile courts in the United States processed approximately 2400 delinquency cases each day (Hockenberry & Puzanchedera, 2018) following several years of significant decreases. By 2015, the number of cases that resulted in probation as the most restrictive disposition declined by 50 % (Hockenberry & Puzanchedera, 2018). Probation, however, has consistently remained the most common sanction imposed by the juvenile court since 1985. According to Torbet (1997), probation is the most longstanding and

<sup>☆</sup> This research was supported in part by a grant from a Eunice Kennedy Shriver National Institute of Child Health and Human Development research infrastructure grant, R24 HD042828, to the Center for Studies in Demography & Ecology at the University of Washington. At the time of the study, Dr. Bo-Kyung Kim was a Scholar with the HIV/AIDS, Substance Abuse, and Trauma Training Program (HA-STTP), at the University of California, Los Angeles; supported through an award from the National Institute on Drug Abuse (R25DA035692).

\* Corresponding author.

E-mail addresses: [pblogang@buffalo.edu](mailto:pblogang@buffalo.edu) (P. Logan-Greene), [bkelizak@usc.edu](mailto:bkelizak@usc.edu) (B.K.E. Kim), [nurius@uw.edu](mailto:nurius@uw.edu) (P.S. Nurius).

<https://doi.org/10.1016/j.chiabu.2020.104465>

Received 24 June 2019; Received in revised form 11 February 2020; Accepted 16 March 2020

Available online 09 April 2020

0145-2134/ © 2020 Elsevier Ltd. All rights reserved.

widely used practice in the juvenile court and can be used either as a diversion strategy for first-time or low-risk offenders or as a sanction for more serious offenders. In 2013, 63 % of the cases processed in the juvenile court received probation as the final disposition while about 25 % of the cases resulted in out-of-home placement (Hockenberry & Puzanchera, 2018).

Therefore, intervention planning for court-involved youth predominantly entails youth on probation that still reside in their communities. Juvenile justice studies, however, have focused primarily on youth detained or incarcerated in secure facilities, an important but small portion of juvenile offenders in the system (Wasserman, McReynolds, Schwalbe, Keating, & Jones, 2010; Wilson et al., 2013). This has left an underdeveloped understanding of the needs and strengths of youth on probation. The current study provides a novel analysis to distinguish six sets of youth on probation based on acute and chronic adversity exposures followed by a test of group differences on a range of risk factors and protective resources. This analysis can guide probation practitioners to successfully transition youth out of the system and ensure public safety. Moreover, it helps guide probation officers and other frontline personnel about the diversity of youth they meet in practice, contrary to “one-size-fits-all” programming that is often the norm.

Studies have documented elevated levels of early life adversities reported by youth in the juvenile justice system (e.g., Dierkhising et al., 2013; Ford, Grasso, Hawke, & Chapman, 2013; Wilson et al., 2013), which have short- and long-term consequences throughout the life course (American Academy of Pediatrics, 2014). About 70 % of youth in the juvenile justice system have experienced a traumatic event and close to a third have a history of frequent and injurious physical and sexual abuse experience (Sedlak & McPherson, 2010). In fact, victimization rates among incarcerated youth are two times higher than those among the general population (Coleman & Stewart, 2010), with 90 % of detained youth reporting at least one trauma, and over 80 % of youth more than one traumatic event in their lifetime (Abram et al., 2004).

### 1.1. Theoretical linkages useful to trauma-responsive systems

The adverse childhood experiences (ACEs) (Felitti et al., 1998) and the broader cumulative life adversities frameworks (Jaffee, Caspi, Moffitt, Polo-Tomas, & Taylor, 2007; Schafer, Ferraro, & Mustillo, 2011) provide a useful guide to systematically assess a broad array of early life stressors, including child maltreatment and neglect as well as other household stressors (e.g., incarceration, mental health, domestic violence, poverty, out of home placement). Higher levels of adversity exposure can impair development and overwhelm coping, as ongoing stress proliferates and builds up eroding neurophysiological as well as psychosocial processes (Evans, Li, & Whipple, 2013; Hatch, 2005; Oppenheimer, Nurius, & Green, 2016). In applying a stress process model to children’s exposure to violence, Foster and Brooks-Gunn (2009) underscore the value of assessing multi-form exposures (including chronic factors such as social disadvantage), of both health and developmental outcomes, and of mutable factors that can serve as resilience resources in the context of adversities. These adversities have shown to increase school failure (Baglivio, Wolff, Epps, & Nelson, 2017; Larson, Chapman, Spetz, & Brindis, 2017), youth aggression and delinquency (Duke, Pettingell, McMorris, & Borowsky, 2010), mental health problems (Chapman et al., 2004; Nurius, Logan-Greene, & Green, 2012), and substance use problems (Dube, Anda, Felitti, Edwards, & Croft, 2002).

Cumulative assessment of acute and chronic adversities has been studied within the context of the juvenile justice system among probation youth by few scholars (e.g., Baglivio et al., 2014; Ford et al., 2013; Logan-Greene, Kim, & Nurius, 2016), confirming the linkages between these adversities and negative outcomes. Existing theories provide meaningful guidance for policy and practice in understanding how ACEs and related adversities manifest in mental, emotional, and behavioral health problems. These theories illuminate various pathways from adversity to adolescent health and functioning problems and consistently assert the toxicity of adverse experiences that steer youth towards negative developmental trajectories such as delinquency, poor self-regulation, and mental health strain. This, ultimately, increases the likelihood of youth becoming engaged in the juvenile justice system. These theories also highlight some important protective factors that can possibly mitigate the direct linkages between adversities and negative outcomes.

Stress process theorizing (Folkman, 2011; Foster & Brooks-Gunn, 2009) points to innate stress response systems that become activated in the face of adversities and stress, although both biological and psychosocial coping patterns can vary widely. Traumatic stress, in particular, can create a hostile attribution bias and impaired social functioning, leading to increased aggression (van der Kolk, 2017). In a similar vein, repeated experiences of unbuffered trauma generates vigilance and stress sensitivity, fostering increased likelihood to respond defensively, including aggressively, in ambiguous social situations (Herts, McLaughlin, & Hatzenbuehler, 2012). Additionally, early trauma and adversities can generate vulnerability to additional stressors later in life, a process known as stress proliferation (Pearlin, Schieman, Fazio, & Meersman, 2005).

General strain theory (Agnew, 2014) builds on stress responding, with a specific emphasis on experiences perceived as unjust, as high in magnitude or meaning, and associated with low social control. Three types of strain are emphasized: 1) loss of positive relationships or other stimuli (e.g., loss of a parent or boyfriend/girlfriend); 2) presence of negative stimuli, (e.g., parental illness, dysfunction, or harmful behaviors); or 3) failure to achieve goals (e.g., frustration with one’s economic situation, or inability to attain work, relationship, or educational goals). These strains increase the likelihood of negative emotions (e.g., anger, fear, frustration), which, in turn, can catalyze maladaptive coping through crime and delinquency (e.g., Aseltine, Gore, & Gordon, 2000; Ostrowsky & Messner, 2005). When examining early adversities, strain theory provides a meaningful guide for understanding experiences that may not be traumatic, per se, but nonetheless create strain in a young person’s life. In contrast, social learning theory (Pratt et al., 2010) focuses more on socialization and interactional processes, suggesting learned patterns of delinquent or criminal behavior when, for example, physical violence by parents are “normalized,” making youth more likely to engage in aggression or violence.

Adaptive coping strategies – whether personal skills or other resources – are available and perceived as effective. However,

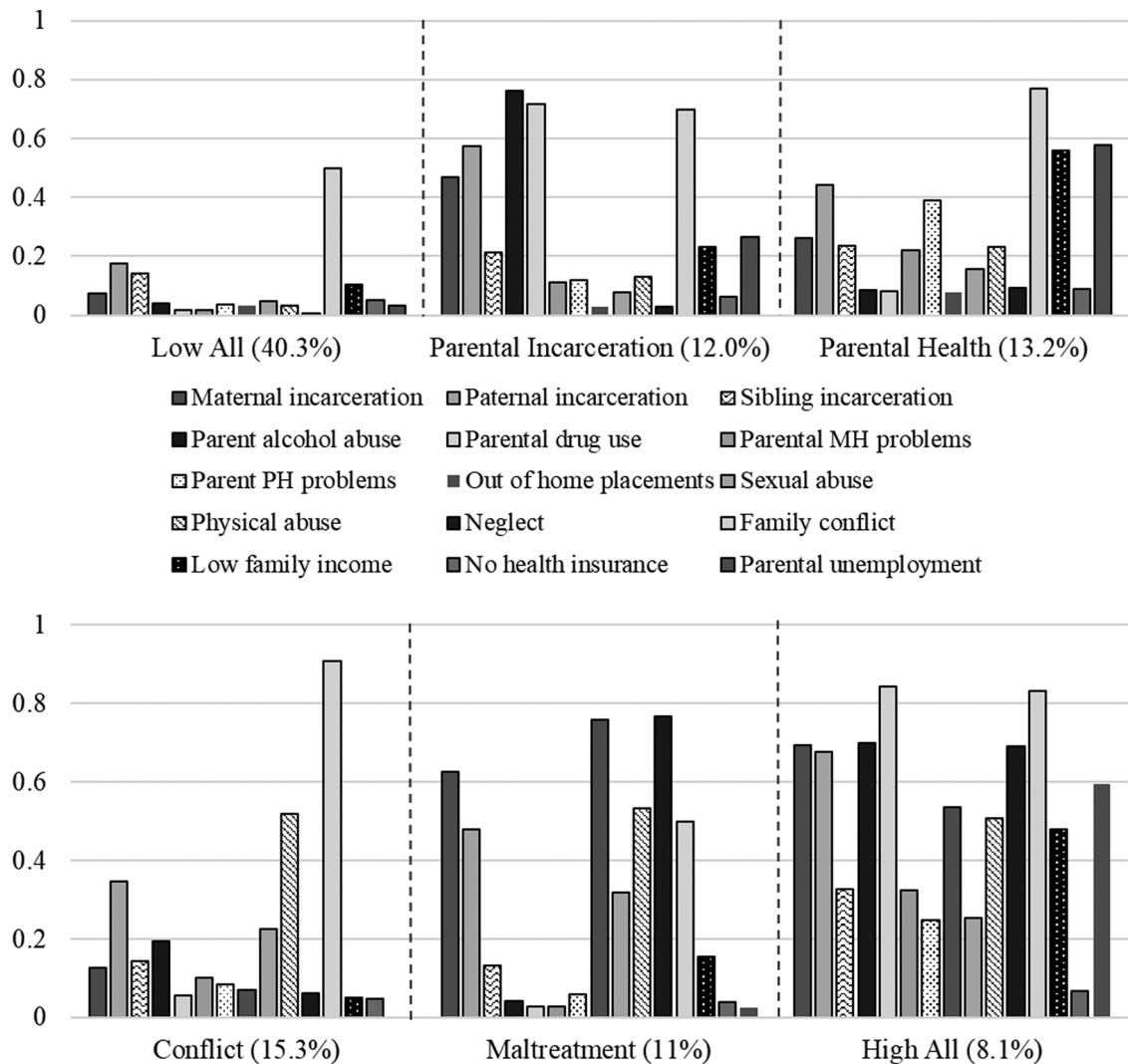


Fig. 1. Latent class proportions for all indicators.

individuals are more likely to deal with negative emotions stemming from strain, stress, or trauma in unconstructive ways. Thus, in the context of high levels of adversities, providing opportunities to young people to be aware of and manage emotions and behaviors would be important. If an individual can manage their emotional response to perceived stress, and regulate their behaviors or environmental contingencies to de-escalate the stressful situation, particularly with protective resources such as social support, they have a stronger basis for positively adapting to stress. Though options may be limited by a youth’s environment, coping skills can be learned (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001), and this personal capacity can be enhanced by increased social and environmental resources such as opportunities, skills, recognition, and attachment that support young people to positive development (Catalano & Hawkins, 1996).

1.2. Heterogeneity and basis for the present study

Logan-Greene et al. (2016) described the results of a Latent Class Analysis on court-involved youth using toxic and acute childhood stressors that spanned family dysfunction, childhood maltreatment, and social disadvantage. This revealed six classes with distinct patterns among the assessed adversities (see Fig. 1). The first class, Low All (40.3 % of sample), reported relatively low endorsement of adversities compared to the rest of the sample, but still elevated burdens of risk compared to general population youth. The second class, Parental Incarceration and Substance Abuse (Parental Incarceration; 12.0 % of sample), reflected higher exposure to parental incarceration and substance misuse. A third class characterized as Poverty and Parental Health Problems (Parental Health; 13.2 % of sample) were most likely to be African American, with the most disadvantaged SES indicators and poor parental physical and mental health. Conversely, a High Conflict and SES class (Conflict; 15.3 % of sample) was notable for comparably high SES indicators, but also reported high levels of family conflict, including indications of domestic violence and physical

and sexual abuse. The fourth class, termed High Maltreatment (Maltreatment; 11.0 % of sample), had tremendous burdens of child maltreatment and histories of out-of-home placements; 73 % were no longer living with either biological parent, and 28 % reported being in foster care. The sixth and final class, High All (8.1 % of sample), had overall high exposure to all domains of adversities; this group also had the highest proportion of females at 32.3 %.

These six classes represent a novel view of how adversities cluster among court-involved probation youth to provide, at an early point in system involvement, data-informed prevention and remediation of problem behaviors or conditions. The present analysis builds on this preliminary work by testing differences among the six classes across an array of risk and protective factors. These include indication of mental health and substance use problems, challenges in academic functioning, and delinquency-related behaviors. Also compared were self-regulation skills as well as family and school relationships and prosocial opportunities relevant for prevention and treatment. This analysis also illustrates an opportunity for courts to use routinely collected system data that include acute and chronic stressors to inform program and practice programming and decisions.

In undertaking testing for subgroup structure within this sample, we brought theory-guided expectations regarding class differences that we anticipated as a function of youths' differential histories of ACEs exposure. Essentially, we hypothesized that each group's profiles on the constructs tested would be reflected of the type and amounts of adversity to which they had been exposed. Consistent with cumulative adversity theory, we expected the Low All class to have the lowest risk level on all tested resources and statuses. Conversely, we expected the two groups with High Maltreatment and High All exposures to have the highest risk levels. For the High Maltreatment class, given potential exposure to multiple systems (e.g., child welfare), we hypothesized that youth in this class would exhibit high levels of school instability/failure and mental health problems. Finally, we hypothesized that the youth with high levels of parental incarceration and substance use (Parental Incarceration), would reflect the most difficulties with their own substance use and possibly more legal problems (e.g., recidivism).

## 2. Methods

### 2.1. Data

These data are from the Washington State Juvenile Court Assessment (WSJCA; Barnoski, 2004a) in a diverse jurisdiction that spans urban and rural areas, including Native American reservations. The assessment includes empirically based measures risk and protective factors at multiple levels within youths' psychosocial context (Washington State Juvenile Court Assessment Manual, 2004). In this particular jurisdiction, the court conducts a screening risk assessment on all youth who come in contact with the system and subsequently conducts a full risk assessment among those who are moderate to high risk, from which our data derive. These assessments are usually completed by probation officers in interviews with the youth, although they are encouraged to speak to collateral contacts, including the parents and professional contacts, as needed (Barnoski, 2004b).

Access to the dataset was obtained with approval from local and state court offices, and all methods were approved by a local Institutional Review Board. Analyses were initially completed using MPlus version 6.1 with class differences tested in version 8.4. Classes were determined using Latent Class Analysis without control variables; differences across classes were determined with the BCH method, which tests for class differences using an ANOVA that is weighted by the inverse of classification error probabilities (Asparouhov & Muthén, 2015; Bakk & Vermunt, 2016). Because these are administrative datasets, there was very little missing data on any included variables.

### 2.2. Sample

This sample includes all youth ( $N = 5,378$ ) identified by the court as moderate to high risk youth (Barnoski, 2004a), who were given a minimum of three months' community probation between 2003–2013, excluding those with sex offenses. In the present analysis, only data from the first full assessment were used, except where noted. Females comprised 23.6 % of the sample, which had an average age of 15.5 years ( $SD = 1.46$ ). Racial composition was 59.8 % White/European American, 25.8 % Black/African American, 6.1 % Latinos (assessment did not differentiate between race and ethnicity), 3.2 % Native American, 3.1 % Asian American, 1.6 % Hawaiian, and 0.4 % mixed or other race.

### 2.3. Measures

Study variables are described in Table 1, including reliability information. The full WSJCA is available online ([http://www.wsipp.wa.gov/ReportFile/873/Wsipp\\_Washington-State-Juvenile-Court-Assessment-Manual-Version-2-1\\_Manual.pdf](http://www.wsipp.wa.gov/ReportFile/873/Wsipp_Washington-State-Juvenile-Court-Assessment-Manual-Version-2-1_Manual.pdf)). In some scales, Likert-type items with different ranges were included (e.g., an item that had 4 answer options and an item that had 5 answer options). In those cases, the items used to create the scales were first standardized, creating a mean-based scale with those items yields scales with values centered around zero.

#### 2.3.1. Self-regulation skills

Three scales assessed for self-regulation skills: impulse control, aspirations, and problem solving. All three scales were created using mean-centered items, and had good-to-excellent internal reliability.

**Table 1**  
Variables and scales included in study.

	Number of items	Examples	Reliability (Cronbach's $\alpha$ unless noted)	Sample Mean (SD) Ranges
<u>Self-Regulation Skills</u>				
Impulse control	6	Ability to deal with emotions, impulse control, aggression control.	0.793	0.00 (0.70) -1.09–2.44
Aspirations	3	Optimistic about future, belief in success on probation, goal setting.	0.681	0.00 (0.78) -2.51–1.48
Problem solving	5	Consequential thinking, problem solving ability, dealing with difficult situations.	0.883	0.00 (0.82) -1.40–2.77
<u>Mental Health and Substance Use</u>				
Current mental health problem	1	Any current mental health diagnosis	Single item <sup>a</sup>	0.27 (0.44) 0.00–1.00
Suicidality	1	Any current suicidality	Single item <sup>a</sup>	0.06 (0.24) 0.00–1.00
Mental health problems interfere	1	Current mental health problem interferes with goals of probation.	Single item <sup>a</sup>	0.07 (0.25) 0.00–1.00
Current alcohol impact	7	Alcohol use currently impacts relationships, health, crime, education, or youth has symptoms of addiction.	0.761	0.63 (1.25) 0.00–7.00
Current drug impact	7	Drug use currently impacts relationships, health, crime, education, or youth has symptoms of addiction.	0.783	1.03 (1.56) 0.00–7.00
<u>Academic functioning</u>				
Special education	1	Single item with any special education needs.	Single item <sup>a</sup>	0.39 (0.49) 0.00–1.00
History of suspensions and expulsions	1	Ordinal scale of history of expulsions (1 = Never, 2 = once, 3 = 2 or 3 times, 4 = 4 or 5 times, 5 = 6 or 7 times, 6 = more than 7 times)	Single item <sup>a</sup>	3.97 (1.74) 1.00–6.00
Low commitment to school	6	Lack of belief in the value of school, problems with school attendance, and poor school performance.	0.812	0.00 (0.72) -1.92–1.39
<u>Family/Social Resources</u>				
Prosocial connections	4	Current positive relationships with adult, community, and resistance to antisocial peers.	0.672	0.00 (0.71) -1.36–2.01
Positive parenting	7	Family supportiveness, supervision, control, rewards, and consistency.	0.829	0.00 (0.70) -1.89–1.17
Family bonding	5	Close to father, mother, sibling, other relatives.	Index <sup>a</sup>	1.18 (0.92) 0.00–5.00
Peer social support	2	History of having friends, currently have good friends.	$r = 0.67$ $p \leq .001$	1.86 (0.47) 0.00–2.00
<u>Behavioral Problems</u>				
Antisocial attitudes	6	Lack of empathy, respect for property and authority, attitude towards laws, accepts responsibility for actions.	0.794	0.00 (0.70) -1.01–2.50
Aggression	4	Low tolerance of frustration, hostile interpretations, beliefs in verbal and physical aggression.	0.802	0.00 (0.79) -1.32–1.80
Re-offense	1	Count of re-offenses within jurisdiction	Single item <sup>a</sup>	0.91 (1.43) 0.00–13.00

<sup>a</sup> Reliability information is not provided for measures that are single items or counts, as calculating a Cronbach's alpha is not appropriate.

### 2.3.2. Mental health and substance use

Three dichotomous items assessed whether youth had a current mental health problem, any active suicide ideation, or a mental health problem that interfered with the goals of probation. Two parallel scales assessed whether youths' alcohol or drug use had significant impact on their lives, or if they had signs of addiction.

### 2.3.3. Academic functioning

A dichotomous item tapped whether youth had special education designation. An ordinal item assessed their history of suspensions and/or expulsions. Finally, a six-item scale assessed low commitment to school, including problems with attendance and performance.

### 2.3.4. Family/social resources

Two scales were included that examined youths' prosocial connections and positive parenting by youth's caregivers. A count assessed family bonding via close family relationships to parents, siblings, and/or other relationships. Finally, two items that examines youth's history of and current good friend relationships was used to measure peer social support.

### 2.3.5. Behavioral problems

Two scales were used to assess antisocial attitudes and aggression. A single item counted re-offenses within the jurisdiction.

**Table 2**  
Mean values and class differences on multi-domain assessment of strengths and needs.

	Low All (1)	Parental Incar- ceration (2)	Parental Health (3)	High Conflict (4)	Maltreat-ment (5)	High All (6)	Wald's Test
<b>Self-Regulation Skills</b>							
Impulse control	0.190	-0.001	-0.258	-0.170	-0.011	-0.201	187.527***
<i>Significant contrasts: 1 &gt; 2,3,4,5,6; 2 &gt; 3,6; 3 &lt; 4,5; 5 &gt; 6</i>							
Aspirations	0.184	-0.019	-0.240	-0.088	-0.054	-0.278	155.279***
<i>Significant contrasts: 1 &gt; 2,3,4,5,6; 2 &gt; 3,6; 3 &lt; 4,5,6; 5 &gt; 6</i>							
Problem solving	0.164	0.000	-0.319	-0.063	-0.008	-0.176	127.410***
<i>Significant contrasts: 1,2 &gt; 3,4,5,6; 3 &lt; 4,6; 4 &lt; 5; 4 &gt; 6</i>							
<b>Mental Health and Substance Use</b>							
Current mental health problem	0.148	0.183	0.283	0.485	0.391	0.356	182.438***
<i>Significant contrasts: 1,2 &lt; 3,4,5,6; 3 &lt; 4,6; 4 &gt; 5,6</i>							
Suicidality	0.026	0.035	0.082	0.140	0.082	0.092	49.618***
<i>Significant contrasts: 1,2 &lt; 3,4,5,6; 3 &lt; 4; 4 &gt; 5</i>							
History of alcohol impact	0.700	1.113	0.545	1.038	0.633	0.996	54.048***
<i>Significant contrasts: 1 &lt; 2,4,6; 1 &gt; 3; 2 &gt; 3,5; 3 &lt; 1,4,6; 5 &lt; 4,6</i>							
History of drug impact	1.010	1.601	0.905	1.448	0.948	1.479	70.805***
<i>Significant contrasts: 1 &lt; 2,4,6; 3,5 &lt; 2,4,6</i>							
Current alcohol impact	0.558	0.928	0.376	0.838	0.452	0.864	59.873***
<i>Significant contrasts: 1 &lt; 2,4,6; 1 &gt; 3; 3,5 &lt; 2,4,6</i>							
Current drug impact	0.899	1.479	0.773	1.261	0.730	1.384	79.701***
<i>Significant contrasts: 1 &lt; 2,4,6; 3,5 &lt; 2,4,6</i>							
<b>Academic Functioning</b>							
Special education	0.328	0.370	0.446	0.399	0.509	0.514	73.709***
<i>Significant contrasts: 1 &lt; 3,4,5,6; 2,4 &lt; 5,6</i>							
History suspensions/expulsions	3.654	4.103	4.440	4.245	3.938	4.100	75.810***
<i>Significant contrasts: 1 &lt; 2,3,4,5,6; 2 &lt; 3; 3 &gt; 5,6; 4 &gt; 5</i>							
Low commitment to school	-0.129	0.145	0.175	0.081	-0.124	0.188	111.173***
<i>Significant contrasts: 1 &lt; 2,3,4,6; 2,3,4,6 &gt; 5</i>							
<b>Family/Social Resources</b>							
Prosocial connections	0.100	-0.184	-0.101	-0.073	0.163	-0.135	100.981***
<i>Significant contrasts: 1 &gt; 2,3,4,6; 2 &lt; 4,5; 5 &lt; 3,4,6</i>							
Positive parenting	0.340	-0.151	-0.330	-0.402	0.318	-0.547	780.224***
<i>Significant contrasts: 1 &gt; 2,3,4,6; 2 &gt; 3,4,6; 2,3,4,6 &lt; 5; 3,4 &gt; 6</i>							
Family bonding	1.368	1.326	1.084	0.824	0.996	1.124	122.642***
<i>Significant contrasts: 1,2 &gt; 3,4,5,6; 4 &lt; 3,5,6</i>							
Peer social support	1.911	1.947	1.822	1.855	1.710	1.716	74.293***
<i>Significant contrasts: 1 &gt; 3,5,6; 2 &gt; 3,4,5,6; 3,4 &gt; 5,6</i>							
<b>Behavioral problems</b>							
Antisocial attitudes	-0.181	-0.008	0.202	0.132	0.074	0.230	159.072***
<i>Significant contrasts: 1 &lt; 2,3,4,5,6; 2 &lt; 3,4,6; 3 &gt; 5; 5 &lt; 6</i>							
Aggression	-0.302	-0.027	0.312	0.388	-0.001	0.289	329.625***
<i>Significant contrasts: 1 &lt; 2,3,4,5,6; 2 &lt; 3,4,6; 3,4,6 &gt; 5</i>							
Re-offenses	0.721	0.919	1.074	1.107	0.941	1.201	41.439***
<i>Significant contrasts: 1 &lt; 2,3,4,5,6; 2,5 &lt; 6</i>							

\*  $p \leq 0.05$ , \*\*  $p \leq 0.01$  \*\*\*  $p \leq 0.001$ .

### 3. Results

Class formation through latent class analysis (LCA) was described previously in Logan-Greene et al. (2016). Briefly, LCA (Lanza & Rhoades, 2013) was used to determine if there were significant clusters of youth based on common childhood adversity profiles. Multiple model fit statistics (Bayesian Information Criterion, Lo-Mendell-Rubin test, Vuong-Lo-Mendell-Rubin likelihood ratio test) were examined as the number of classes was iteratively increased (Nylund, Asparouhov, & Muthén, 2007). Examination of these fit statistics indicated that a six-class model fit best (results shown in Fig. 1). Class differences on all assessed factors are shown in Table 2, with standardized visual depictions shown in Figs. 2–6.

#### 3.1. Self-regulation skills

Impulse control, aspirations, and problem solving skills were all significantly different and showed similar patterns across the classes (see Fig. 2). The only class with positive (above sample-average) scores on any scale was the Low All class; all other classes showed some deficits across all scales, with the lowest values seen in the Parental Health and High All classes.

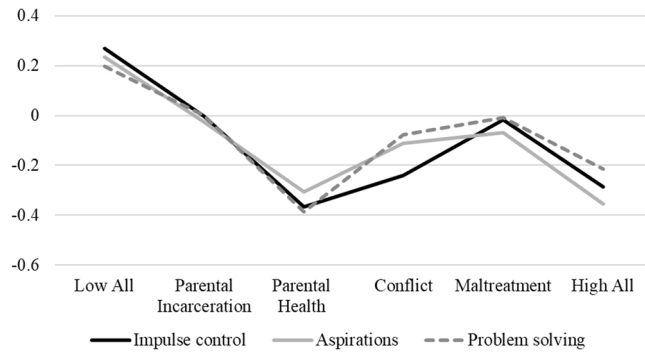


Fig. 2. Mean-centered averages of self-regulation skills items across the six classes.

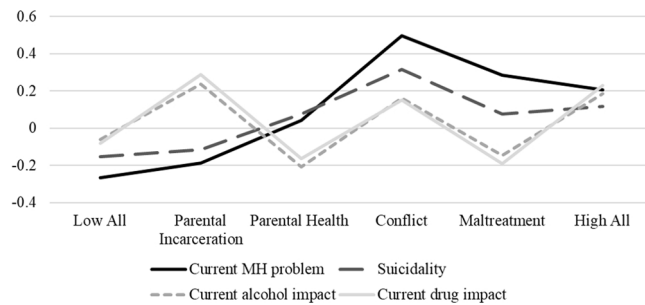


Fig. 3. Mean-centered averages of mental health and substance use items across the six classes.

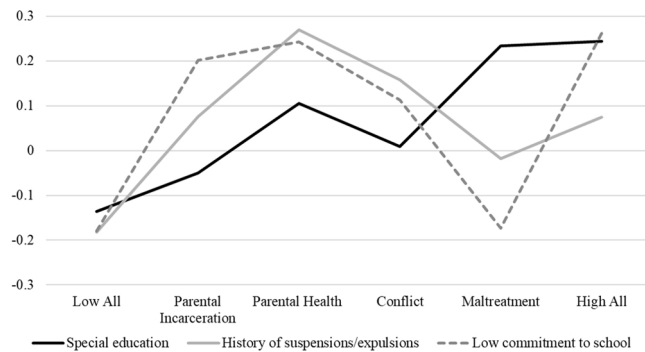


Fig. 4. Mean-centered averages of academic functioning items across the six classes.

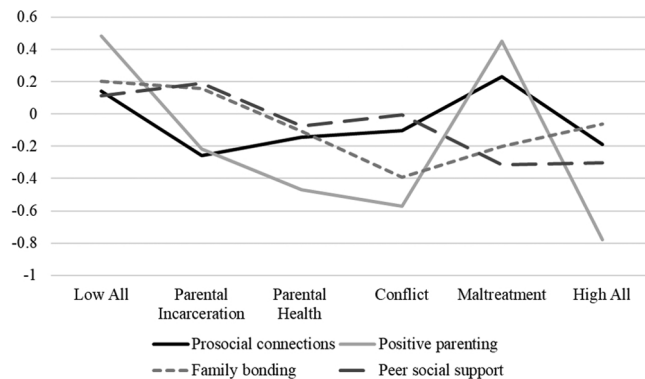


Fig. 5. Mean-centered averages of family/social resources across the six classes.



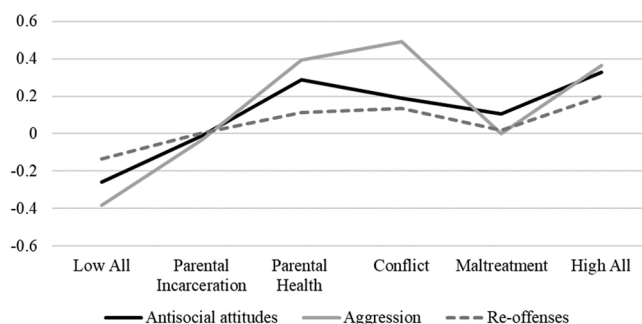


Fig. 6. Mean-centered averages of behavioral problems items across the six classes.

### 3.2. Mental health and substance use

The classes differed significantly across mental health and substance use indicators (see Fig. 3). Four classes – Parental Health, Conflict, Maltreatment, and High All – showed significantly elevated levels of mental health problems and suicidality. The Conflict class had the highest levels of impairment from current mental health problems and suicidality. The scales that assessed substance use impact showed a distinct and consistent pattern across the classes: The Parental Incarceration, Conflict, and High All classes had the highest scores on all scales, with the greatest impact evident in the Parental Incarceration class.

### 3.3. Academic functioning

Special education needs were more common in the Parental Health, Maltreatment, and High All classes (see Fig. 4). All classes had some history of suspensions/expulsions; the highest levels were seen in the Parental Health and High All classes, with moderately high levels also observed in the Parental Incarceration and Conflict classes. The low commitment to school scale appeared to be the highest (indicating more school problems) among the Parental Incarceration, Parental Health, and High All classes.

### 3.4. Family/social domain

Family and social domain items varied significantly different across the classes (see Fig. 5). Prosocial connections were highest among the Low All and Maltreatment classes, with similar results on the positive parenting scale, which was especially low in the Parental Health, Conflict, and the High All classes. Youth in the Low All and Parental Incarceration classes reported higher levels of family bonding and peer social support than the other classes.

### 3.5. Behavioral problems

The Low All class was the only class with below sample average levels of antisocial attitudes and aggression (see Fig. 6). Antisocial attitudes were highest among the Parental Health and High All classes, and aggression was highest among the Parental Health, Conflict, and High All classes. Re-offenses were lowest in the Low All class and highest in the High All class.

## 4. Discussion

This analysis provides the first in-depth examination of distinct patterns of childhood adversities and trauma among probation youth using system data to inform potentially heterogeneous treatment and prevention needs. These findings have significant implications for both prevention of negative trajectories among at-risk youth, as well as for programming meant to minimize recidivism and improve outcomes among court-involved youth. Findings also suggest a need to incorporate a more nuanced examination of risks and needs of youth involved with the juvenile justice in order to best match youth with services. In the sections below, we examine findings for each class in turn with an emphasis on theoretical considerations and implications for interventions germane to juvenile justice as well as other systems serving vulnerable children and families.

### 4.1. Low all

Although this class appears relatively low-risk compared to the sample as a whole, it is worth noting that the current sample includes justice-involved youth who are at elevated risk relative to youth in the general population. Despite having the lowest risk levels in this sample, youth in this class still report challenges: 19 % present with at least one mental health diagnosis and 34 % qualify for special education (See Table 2). The literature recommends minimizing juvenile justice supervision and intervention for low-risk youth as one principle for effective practice (Seigle, Walsh, & Weber, 2014). Given the lowest re-offense rates for youth in this class, restorative services and basic case management that foster existing strengths in peer social support, parent relationships, and prosocial connections while shortening formal contact with the system might help youth positively transition out of the juvenile justice system (Lipsley, 2009).



#### 4.2. Parental incarceration

This class appears to have adopted patterns of substance use and criminality that were manifest in the home. There are multiple mechanisms that can lead youth with parental substance abuse issues to have similar struggles, as evidenced in prior research (e.g., Yule, Wilens, Martelon, Simon, & Biederman, 2013). These tendencies are often transmitted via social learning, in which youth see parental behaviors modeled and then receive reinforcement for similar behaviors. In addition, there may be biological predispositions inherited via typical or epigenetic pathways (Nielsen, Utrankar, Reyes, Simons, and Kosten, 2012), though these predispositions are triggered by other social or environmental factors (Bevilacqua & Goldman, 2009). As this class exhibited the highest level of substance use patterns, substance abuse treatment would most likely benefit these youth. To make the most out of limited resources, systems could require a diagnostic assessment for youth reporting high levels of substance use and refer youth with substance-related disorders to juvenile drug courts (JDC; Lowenkamp, Holsinger, & Latessa, 2005). JDCs have shown some evidence of reducing substance use and delinquent behaviors (Belenko, 2001), especially when combined with evidence-based programs that target other ecological risk factors (Henggeler et al., 2006).

Notable with this class are strong protective factors that could be leveraged in interventions (Hall et al., 2012). For example, this class reports relatively high peer social support and family bonding, though it is unclear if those connections are pro- or antisocial. Youth in this class may have socially learned to use substances resulting from the closeness to family members who use substances (Catalano & Hawkins, 1996). It could also be that experiencing incarceration of close family members (particularly parents) has led them to use substances as a coping mechanism. Regardless, this class might benefit from mentoring programs that provide positive role modeling (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011) in the absence of positive parenting figures (Jarjoura, DuBois, Shlafer, & Haight, 2013).

#### 4.3. Parental health

This class appears to suffer from markedly impoverished social and family resources, with the highest proportion of African American youth (32 %). Although some of the major risk factors are relatively low – e.g., trauma and substance use – they nonetheless have some of the worst outcomes on re-offense rates and suspension/expulsion history, potentially manifesting the disproportionate minority contact of the school-to-prison pipeline phenomenon. Strain theory would suggest that these youth might engage in delinquent behaviors as an expression of frustration towards the unjust and unfair systems that continue to disadvantage them (Agnew, 2014; Lin, Cochran, & Mieczkowski, 2011). Given the high rates of family poverty, low parental employment, poor parenting, and absent prosocial connections, these youth are simply not being given opportunities to develop self-directed capacities. This class reinforces findings that social disadvantage, as a major childhood adversity, impacts development in ways that are distinct yet cumulative (Cronholm et al., 2015; Sacks, Murphey, & Moore, 2014). Moreover, the parenting challenges faced by this class may not be well-met by therapeutic programs without attention to the actual needs (e.g., resources, health) of the parents. The Wraparound Services Model (Suter & Bruns, 2009) that provides the families with individualized and comprehensive services and resources may have broader effects by addressing the parental needs observed in these results. At a larger systems level, more intentional work needs to be done to ensure that all youth coming in contact with the courts receive fair and equal treatment. Continued system-wide evaluation, court personnel training, and collaborations with local schools can help mitigate discriminatory practices that African American youth experience.

#### 4.4. High conflict

Prior examination showed that this class likely represents exposure to family violence, especially domestic violence between parents (Logan-Greene et al., 2016), which might have spilled over to youth themselves. The highest level of suicidality and some impairment from drug use might indicate their maladaptive coping behaviors due to significant traumatic stress incurred in early life (Hartman & Burgess, 1993). In a different light, the relatively high levels of antisocial attitudes and aggression may be learned behaviors from witnessing violence and physical abuse in the home (Widom & Maxfield, 2001), especially given the low out-of-home placement rates for this class. Functional Family Therapy (Alexander, Waldron, Robbins, & Neeb, 2013) that engages families to improve family processes and other behavioral risks would be an appropriate tested and effective program for this class. Given high rates of suicidality, linking youth in this class with therapists who can provide suicide prevention supports and resources would be imperative. Unfortunately, not many tested and effective programs exist in suicide prevention, particularly in the juvenile justice system, underscoring the need for more research in this area (Wasserman et al., 2010).

#### 4.5. Maltreatment

This class has experienced the highest levels of maltreatment and out-of-home placements and diminished personal resources, high levels of mental health problems, and high special education needs. They are faring well, however, in other important areas, such as lower substance use, greater school engagement, and good prosocial connections and family functioning. Given the proportion of these youth that do not live with biological parents (72.8 %), the positive parenting ratings may reflect their current living situation in foster or kinship care, where greater stability and resources are available. Despite this, a high functioning caregiving household may provide an excellent point of intervention to address mental health difficulties. Treatment Foster Care Oregon, formerly known as Multidimensional Treatment Foster Care (Chamberlain, 2003), that targets youth in foster care or juvenile justice

system with high emotional or behavioral disorders to foster positive relationships with peers, family members, teachers, and other adults might be an effective strategy for this class.

Additionally, given that youth in the child welfare system report extensive exposures to complex trauma (Greeson et al., 2011), it is imperative that any intervention for this class target the distress from their experiences of trauma. Traumatic stress theory provides an excellent framework to understand this class, especially around the multifaceted losses faced by maltreated youth removed from their families of origin (Zill & Bramlett, 2014). Recent calls to implement trauma-informed care practices in juvenile justice settings (e.g., National Task Force on Children Exposed to Violence (US), Listenbee, & Torre, 2012) are one important step, but these youth would also need to be linked with trauma-specific interventions. Promising interventions for them would include trauma-focused cognitive behavioral therapy, which addresses self-regulation skills and the emotional impacts of trauma (Mannarino, Cohen, & Deblinger, 2014). More recently, mindfulness and meditative practices have emerged as effective for assisting high-risk youth in managing symptoms of trauma, such as intrusive thoughts and emotional arousal (Mendelson et al., 2010).

#### 4.6. High all

Unsurprisingly, this group displays the most impairment of any class. With few exceptions, they show the greatest problems in every domain, especially self-regulation skills, substance use, family/social resources, and behavioral problems. Importantly, they also had the highest levels of adversity exposure – an average of almost eight experiences. The youth may be understood as experiencing serious stress cascades (Masten & Cicchetti, 2010), in which traumatic experiences yield negative and delinquent behaviors, consequently leading to further social problems, including court involvement. With such wide-ranging and challenging levels of individual and family risks, programming would have to be intensive and multidimensional in order to be effective. Multisystemic Therapy is one possibility, especially as it will address poor family functioning simultaneously with other youth-specific problems (Henggeler, Mihalic, Rone, Thomas, & Timmons-Mitchell, 1998). Although this current assessment does not include indicators of health, extensive literature suggests that these youth will likely face health impairments soon if current trajectories are not interrupted (Nurius, Green, Logan-Greene, Longhi, & Song, 2016; Shonkoff et al., 2012). This group would need to be prioritized for intervention by juvenile justice systems in order to prevent serious impairment in the future.

#### 4.7. Limitations

There are multiple limitations to this study worth noting. All data derive from an assessment delivered by probation officers. Thus, it is possible not all answers are correct, although Washington State has implemented sustained policies and guidelines to ensure maximum accuracy (Barnoski, 2004b). Moreover, all data, excepting the re-offense variable, are cross-sectional, so it is not possible to determine causality. These profiles, therefore, should be understood as offering a snapshot in time. Another possible limitation is that many items, especially those around childhood adversities, are retrospective, although the distance in time is shorter for adolescents than for adults. Recent examinations also have suggested self-report is highly congruent with externally validated data for maltreatment variables (Smith, Ireland, Thornberry, & Elwyn, 2008). Additionally, these data derive from one jurisdiction, limiting generalizability, although the sample is fairly diverse. Because this analytical approach is exploratory, further research is needed to verify if these classes and their characteristics would be common across different settings and samples. Finally, the psychometrics of this study are limited by the measures available in the assessment tool. Although reliability indicators are generally good, we do not, for example, have access to mental health symptomology, limiting our ability to address specific types of mental illness problems experienced by this population.

#### 4.8. Implications and conclusions

This study has important implications for practitioners working with at-risk youth across a variety of settings. Not only do these results bolster findings that justice-involved youth carry high burdens of adversity (e.g., Baglivio et al., 2014), but they also emphasize the need to address differential needs with specific treatment approaches. A strength of the present study is its use of data that are routinely collected within the courts, providing an opportunity for practitioners to directly and immediately translate these findings to their current caseloads. Moreover, these findings speak directly to recent calls to incorporate an understanding of trauma within juvenile justice systems. Many jurisdictions have lately incorporated trauma-informed approaches, but the current findings illustrate that a one-size-fits-all approach will not be sufficient. Practitioners should consider the variety of needs these youth pose by utilizing their data to determine which sorts of interventions match the needs of particular youth in their practices. Incorporation of evidence-based programming for youth they frequently encounter, especially beyond detention settings, has the greatest potential to ameliorate harms (e.g., Ford & Blaustein, 2013).

These findings also have implications for organizations that serve youth “upstream” of their court involvement. Schools, social service organizations, and child welfare systems can take note of these common profiles to glean results that speak to the populations they serve. For example, school counselors may be aware of youth whose families resemble the Parental Health class, indicating a serious dearth of positive social connections. Schools can perhaps leverage their resources to actively engage these young people in preventing problem behaviors and ensure that they do not get unjustly pushed out of the school systems (i.e., restorative practices, Positive Behavioral Interventions and Supports).

Finally, this study highlights the value of research and practice collaborations. The county where this project was initiated has recently piloted a new probation service model, called the opportunity-based probation and is well-positioned to review and improve

its current service model (Annie, 2018). County personnel have helped provide in-depth understanding of each of the classes that emerged in this paper and suggested possible directions that the court can take to address the distinct needs of each class. This sort of collaboration is invaluable in bridging research-to-practice gaps that hamper translational research. One goal in this paper is to highlight insights from available system data that can be used to orient systems toward greater responsiveness to the needs of vulnerable populations. Data and other factors inherently arise as limitations. Yet, these collaborations offer a practical strategy toward advancing our understanding of the complex lives of the populations we serve and the prevention and intervention approaches we can marshal.

Finally, this study adds to a small but growing body of literature focused on youth in probation, demonstrating that they are in need of evidence-based interventions that they rarely get compared to youth in detention settings (Ford & Blaustein, 2013). Given the high proportion of youth who receive probation as a disposition, more attention needs to be paid to this population and interventions that may be effective to prevent further criminal behavior.

## Funding

This research did not receive any specific grant funding agencies in the public, commercial, or not-for-profit sectors.

## Acknowledgements

We thank T. J. Bohl, Shelly Maluo, and Kevin Williams, for their support and contribution to this research. We also thank Isaias Hernandez for his contributions to data management.

## Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.chiabu.2020.104465>.

## 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(4), 403–410.
- Agnew, R. (2014). *General strain theory*. *Encyclopedia of criminology and criminal justice*. New York, NY: Springer1892–1900.
- Alexander, J. A., Waldron, H. B., Robbins, M. S., & Neeb, A. (2013). *Functional Family Therapy for adolescent behavior problems*. American Psychological Association.
- American Academy of Pediatrics (2014). *Adverse childhood experiences and the lifelong consequences of trauma*. Elk Grove Village, Ill: American Academy of Pediatrics.
- Annie, E. (2018). *Casey Foundation (May 28, 2018). Pierce County: Trailblazer for probation transformation [Blog post]*. Retrieved from<https://www.aecf.org/blog/pierce-county-trailblazer-for-probation-transformation/>.
- Aseltine, R. H., Jr, Gore, S., & Gordon, J. (2000). Life stress, anger and anxiety, and delinquency: An empirical test of general strain theory. *Journal of Health and Social Behavior*, 256–275.
- Asparouhov, T., & Muthén, B. (2015). *Auxiliary variables in mixture modeling: Using the BCH method in Mplus to estimate a distal outcome model and an arbitrary secondary model*. *MplusWebNotes: No. 21 Version 2*. Retrieved fromMuthén and Muthén[https://www.statmodel.com/download/asparouhov\\_muthen\\_2014.pdf](https://www.statmodel.com/download/asparouhov_muthen_2014.pdf).
- Baglivio, M. T., Epps, N., Swartz, K., Huq, M. S., Sheer, A., & Hardt, N. S. (2014). The prevalence of adverse childhood experiences (ACE) in the lives of juvenile offenders. *Journal of Juvenile Justice*, 3(2), 1–23.
- Baglivio, M. T., Wolff, K. T., Epps, N., & Nelson, R. (2017). Predicting adverse childhood experiences: The importance of neighborhood context in youth trauma among delinquent youth. *Crime & Delinquency*, 63(2), 166–188.
- Bakk, Z., & Vermunt, J. K. (2016). Robustness of stepwise latent class modeling with continuous distal outcomes. *Structural Equation Modeling*, 23, 20–31.
- Barnoski, R. (2004a). *Washington State Juvenile Court assessment manual, version 2.1*. Olympia: Washington State Institute for Public Policy.
- Barnoski, R. (2004b). *Assessing risk for re-offense: Validating the Washington State Juvenile Court assessment appendices*. Olympia, WA: Washington State Institute for Public Policy.
- Belenko, S. (2001). *Research on Drug Courts: A critical review, 2001 update*. Alexandria, VA: National Drug Court Institute 2001.
- Bevilacqua, L., & Goldman, D. (2009). Genes and addictions. *Clinical Pharmacology & Therapeutics*, 85(4), 359–361.
- Catalano, R. F., & Hawkins, J. D. (1996). *A theory of antisocial behavior. Delinquency and crime: Current theories*. New York, NY: Cambridge University Press149–197.
- Chamberlain, P. (2003). The Oregon Multidimensional Treatment Foster Care model: Features, outcomes, and progress in dissemination. In S. Schoenwald, & S. Henggeler (Eds.). *Moving evidence-based treatments from the laboratory into clinical practice* (pp. 303–312). *Cognitive and Behavioral Practice*, 10(4).
- Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, 82(2), 217–225.
- Coleman, D., & Stewart, L. M. (2010). Prevalence and impact of childhood maltreatment in incarcerated youth. *American Journal of Orthopsychiatry*, 80(3), 343–349.
- Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin*, 127(1), 87.
- Cronholm, P. F., Forke, C. M., Wade, R., Bair-Merritt, M. H., Davis, M., Harkins-Schwarz, M., ... Fein, J. A. (2015). Adverse childhood experiences: Expanding the concept of adversity. *American Journal of Preventive Medicine*, 49(3), 354–361.
- 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.
- Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Croft, J. B. (2002). Adverse childhood experiences and personal alcohol abuse as an adult. *Addictive Behaviors*, 27(5), 713–725.
- DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychological Science in the Public Interest*, 12(2), 57–91.
- 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, e778–e787.
- Evans, G. W., Li, D., & Whipple, S. S. (2013). Cumulative risk and child development. *Psychological Bulletin*, 139(6), 1342–1396.
- 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.
- Folkman, S. (2011). *Stress, health, and coping: An overview. The Oxford handbook of stress, health, and coping*3–11.
- Ford, J. D., & Blaustein, M. E. (2013). Systemic self-regulation: A framework for trauma-informed services in residential juvenile justice programs. *Journal of Family Violence*, 28(7), 665–677.
- Ford, J. D., Grasso, D. J., Hawke, J., & Chapman, J. F. (2013). Poly-victimization among juvenile justice-involved youths. *Child Abuse & Neglect*, 37(10), 788–800.

- Foster, H., & Brooks-Gunn, J. (2009). Toward a stress process model of children's exposure to physical family and community violence. *Clinical Child and Family Psychology Review*, 12(2), 71–94.
- Greeson, J. K., Briggs, E. C., Kiesel, C. L., Layne, C. M., Ake, G. S., III, Ko, S. J., ... Fairbank, J. A. (2011). Complex trauma and mental health in children and adolescents placed in foster care: Findings from the National Child Traumatic Stress Network. *Child Welfare*, 90(6), 91–108.
- Hall, J. E., Simon, T. R., Mercy, J. A., Loeber, R., Farrington, D. P., & Lee, R. D. (2012). Centers for Disease Control and Prevention's expert panel on protective factors for youth violence perpetration: Background and overview. *American Journal of Preventive Medicine*, 43(2), S1–S7.
- Hartman, C. R., & Burgess, A. W. (1993). Information processing of trauma. *Child Abuse & Neglect*, 17(1), 47–58.
- Hatch, S. L. (2005). Conceptualizing and identifying cumulative adversity and protective resources: Implications for understanding health inequalities. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 60(Special\_Issue\_2), S130–S134.
- Henggeler, S. W., Halliday-Boykins, C. A., Cunningham, P. B., Randall, J., Shapiro, S. B., & Chapman, J. E. (2006). Juvenile drug court: Enhancing outcomes by integrating evidence-based treatments. *Journal of Consulting and Clinical Psychology*, 74(1), 42–54.
- Henggeler, S. W., Mihalic, S. F., Rone, L., Thomas, C., & Timmons-Mitchell, J. (1998). *Blueprints for violence prevention, book six: Multisystemic therapy*. Boulder, CO: Center for the Study and Prevention of Violence.
- Herts, K. L., McLaughlin, K. A., & Hatzenbuehler, M. L. (2012). Emotion dysregulation as a mechanism linking stress exposure to adolescent aggressive behavior. *Journal of Abnormal Child Psychology*, 40(7), 1111–1122.
- Hockenberry, S., & Puzzanera, C. (2018). *Juvenile court statistics 2015*. Office of Juvenile Justice and Delinquency Prevention.
- Jaffee, S. R., Caspi, A., Moffitt, T. E., Polo-Tomas, M., & Taylor, A. (2007). Individual, family, and neighborhood factors distinguish resilient from non-resilient maltreated children: A cumulative stressors model. *Child Abuse & Neglect*, 31(3), 231–253.
- Jarjoura, G. R., DuBois, D. L., Shlafer, R. J., & Haight, K. A. (2013). *Mentoring children of incarcerated parents: A synthesis of research and input from the listening session held by the Office of Juvenile Justice and Delinquency Prevention and the White House Domestic Policy Council and Office of Public Engagement*. Office of Juvenile Justice and Delinquency Prevention.
- Lanza, S. T., & Rhoades, B. L. (2013). Latent Class Analysis: An alternative perspective on subgroup analysis in prevention and treatment. *Prevention Science*, 14(2), 157–168.
- Larson, S., Chapman, S., Spetz, J., & Brindis, C. D. (2017). Chronic childhood trauma, mental health, academic achievement, and school-based health center mental health services. *Journal of School Health*, 87(9), 675–686.
- Lin, W. H., Cochran, J. K., & Mieczkowski, T. (2011). Direct and vicarious violent victimization and juvenile delinquency: An application of general strain theory. *Sociological Inquiry*, 81(2), 195–222.
- Lipsey, M. W. (2009). The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims and Offenders*, 4(2), 124–147.
- Logan-Greene, P., Kim, B. E., & Nurius, P. S. (2016). Childhood adversity among court-involved youth: Heterogeneous needs for prevention and treatment. *Journal of Juvenile Justice*, 5(2), 68–84.
- Lowenkamp, C. T., Holsinger, A. M., & Latessa, E. J. (2005). Are drug courts effective: A meta-analytic review. *Journal of Community Corrections*, 15(1), 5–11.
- Mannarino, A. P., Cohen, J. A., & Deblinger, E. (2014). *Trauma-focused cognitive-behavioral therapy. Evidence-based approaches for the treatment of maltreated children*. Netherlands: Springer165–185.
- Masten, A. S., & Cicchetti, D. (2010). Developmental cascades. *Development and Psychopathology*, 22(3), 491–495.
- Mendelson, T., Greenberg, M. T., Dariotis, J. K., Gould, L. F., Rhoades, B. L., & Leaf, P. J. (2010). Feasibility and preliminary outcomes of a school-based mindfulness intervention for urban youth. *Journal of Abnormal Child Psychology*, 38(7), 985–994.
- National Task Force on Children Exposed to Violence (US), Listenbee, R. L., & Torre, J. (2012). *Report of the attorney general's national task force on children exposed to violence. Attorney general's national task force on children exposed to violence*.
- Nielsen, D. A., Utrankar, A., Reyes, J. A., Simons, D. D., & Kosten, T. R. (2012). Epigenetics of drug abuse: Predisposition or response. *Pharmacogenomics*, 13(10), 1149–1160.
- Nurius, P. S., Green, S., Logan-Greene, P., Longhi, D., & Song, C. (2016). Stress pathways to health disparities: Embedding ACEs within social and behavioral contexts. *International Public Health Journal*, 8(2), 241–256.
- Nurius, P. S., Logan-Greene, P., & Green, S. (2012). Adverse childhood experiences (ACE) within a social disadvantage framework: Distinguishing unique, cumulative, and moderated contributions to adult mental health. *Journal of Prevention & Intervention in the Community*, 40(4), 278–290.
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling*, 14(4), 535–569.
- Oppenheimer, S. C., Nurius, P. S., & Green, S. (2016). Homelessness history and ACE impacts on health and economic hardship: New insights from population data. *Families in Society*, 97(3), 230–242.
- Ostrowsky, M. K., & Messner, S. F. (2005). Explaining crime for a young adult population: An application of general strain theory. *Journal of Criminal Justice*, 33(5), 463–476.
- Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, 46(2), 205–219.
- Pratt, T. C., Cullen, F. T., Sellers, C. S., Thomas Winfree, L., Jr, Madensen, T. D., Daigle, L. E., ... Gau, J. M. (2010). The empirical status of social learning theory: A meta-analysis. *Justice Quarterly*, 27(6), 765–802.
- Sacks, V., Murphey, D., & Moore, K. (2014). *Adverse childhood experiences: National and state-level prevalence. Research brief. Child trends*. Publ. No. 2014-28, Bethesda. Retrieved from <https://calio.dspacedirect.org/handle/11212/1663>.
- Schafer, M. H., Ferraro, K. F., & Mustillo, S. A. (2011). Children of misfortune: Early adversity and cumulative inequality in perceived life trajectories. *American Journal of Sociology*, 116(4), 1053–1091.
- Sedlak, A. J., & McPherson, K. S. (2010). Youth's needs and services. *OJJDP Juvenile Justice Bulletin*, 10–11.
- Seigle, E., Walsh, N., & Weber, J. (2014). *Core principles for reducing recidivism and improving other outcomes for youth in the juvenile justice system*. New York: Council of State Governments Justice Center 2014.
- Shonkoff, J. P., Garner, A. S., Siegel, B. S., Dobbins, M. I., Earls, M. F., McGuinn, L., ... Committee on Early Childhood, Adoption, and Dependent Care (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*, 129(1), e232–e246.
- Smith, C. A., Ireland, T. O., Thornberry, T. P., & Elwyn, L. (2008). Childhood maltreatment and antisocial behavior: Comparison of self-reported and substantiated maltreatment. *American Journal of Orthopsychiatry*, 78(2), 173–186.
- Suter, J., & Bruns, E. (2009). Effectiveness of the wraparound process for children with emotional and behavioral disorders: A meta-analysis. *Clinical Child & Family Psychology Review*, 12(4), 336–351.
- Torbet, P. (1997). *Juvenile probation: The workhorse of the juvenile justice system. Juvenile probation administrators desktop guide*13–18.
- van der Kolk, B. A. (2017). Developmental Trauma Disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals*, 35(5), 401–408.
- Wasserman, G. A., McReynolds, L. S., Schwalbe, C. S., Keating, J. M., & Jones, S. A. (2010). Psychiatric disorder, comorbidity, and suicidal behavior in juvenile justice youth. *Criminal Justice and Behavior*, 37(12), 1361–1376.
- Widom, C. S., & Maxfield, M. G. (2001). *An update on the 'cycle of violence' research in brief*. NCJ 184894. Available at Washington, D.C: National Institute of Justice. <http://www.ncjrs.gov/pdffiles1/nij/184894.pdf>.
- Wilson, H. W., Berent, E., Donenberg, G. R., Emerson, E. M., Rodriguez, E. M., & Sandesara, A. (2013). Trauma history and PTSD symptoms in juvenile offenders on probation. *Victims & Offenders*, 8(4), 465–477.
- Yule, A. M., Wilens, T. E., Martelon, M. K., Simon, A., & Biederman, J. (2013). Does exposure to parental substance use disorders increase substance use disorder risk in offspring? A 5-year follow-up study. *American Journal on Addictions*, 22(5), 460–465.
- Zill, N., & Bramlett, M. D. (2014). Health and well-being of children adopted from foster care. *Children and Youth Services Review*, 40, 29–40.