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A Study of the Impact of Screening for Poly-victimization in Juvenile Justice:

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Summary Overview Report to the National Institute of Justice

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## **Purpose**

Research over the past decade has identified a sub-group of traumatized youths who have had extensive exposure to multiple types of victimization, interpersonal violence, and loss. These poly-victims are at risk for involvement in delinquency, and if they become involved in juvenile justice they have more severe emotional, behavioral, interpersonal, and school problems than other justice-involved youth (Ford, Grasso, Hawke, & Chapman, 2013). Screening for mental health problems by staff or clinicians has become a standard practice in most juvenile justice programs, with the standard practice being universal screening of all youth at the point of system intake. While further referrals for services should be guided by screening results, such referrals are usually at the discretion of the staff/clinician. However, there is no validated tool or procedure to screen for poly-victimization with justice-involved youth. This project therefore was designed to test the feasibility of and validate a poly-victimization screen with youth in juvenile detention facilities. The project's specific aims were as follows:

- Aim 1: To conduct a quasi-experimental study of the effectiveness of poly-victimization enhanced screening (PVE) in increasing the identification of traumatized juvenile justice-involved youth.
- Aim 2: To test the effectiveness of PVE in reducing subsequent adverse legal outcomes: (a) number and severity of juvenile offenses, (b) extent of justice involvement.
- Aim 3: To determine if the outcomes associated with PVE are independent of youths' age, gender, race/ethnicity, and previous legal history.

## **Project Design and Methods**

**Procedure.** The current project builds on the widespread use of the MAYSI-2 screener (described below) in juvenile justice by adding a brief but comprehensive screener for lifetime

exposure to victimization and other potentially traumatic events (PTEs) and PTSD symptoms that has been developed for, and validated with, maltreated youth, the STRESS (Grasso, Felton, & Reid-Quinones, 2015). A quasi-experimental design comparing the screening of youth adjudicated in the juvenile justice system with the MAYSI-2 (screening as usual, SAU) with a poly-victimization enhanced screening (PVE) adding the STRESS, was designed to utilize both retrospective and prospective archival juvenile justice system data as outcomes. STRESS data routinely collected at admission to the two juvenile detention centers in the State of Connecticut were used to identify a poly-victim sub-group in the PVE cohort and sub-groups from two SAU cohorts matched with this poly-victim sub-group on demographics and MAYSI-2 profiles. The PVE cohort data were based on screenings conducted for 4 months immediately after addition of the STRESS to the MAYSI-2 as a standard screening protocol. The SAU cohorts were selected to represent a temporally proximate control group (i.e., the prior 4 month period immediately prior to the PVE time-period; “proximal SAU”) and a seasonal control group (i.e., from the 4-month calendar period exactly one year earlier than the PVE time-frame; “distal SAU”).

Data were extracted from State juvenile justice records to construct outcome variables representing legal involvement and service referrals in the 12-months before (retrospective) and after (prospective) the detention screening. All personal identifiers were removed by the State agency before data were provided to the project investigators following a protocol approved by the State agency’s Internal Research Review Committee and the National Institute of Justice IRB, and that was determined by the project investigator’s academic institution (the University of Connecticut Health Center’s IRB) to not constitute human subjects research,

**Participants.** Consecutive admissions ( $N=857$ ) to juvenile detention facilities included youth ages 12-18 years old ( $M=15.75$ ,  $SD=1.3$ ), 75% male, 43% Black, 31% Hispanic, 23%

White, non-Hispanic, and 1% Asian/Pacific Islander. The three quasi-experimental cohorts were comparable on all demographic and legal history variables, with unduplicated  $N_s = 345$  (PVE sample), 181 (SAU seasonal control sample), 331 (SAU proximate control sample).

**Measures.** The Massachusetts Youth Screening Instrument (MAYSI-2) is 52-item true-false questionnaire that is widely used and validated internationally to screen justice-involved youth for mental health problems, with factor analytically derived scales for depression/anxiety, anger problems, thought disturbance, somatic complaints, alcohol and drug use, suicide risk, and traumatic experiences (TE). TE has 4 potential traumatic events (PTE) items for boys and 5 for girls (the item referring to rape is used only with girls). Only one TE item refers specifically to PTSD symptoms (the bad thoughts/dreams item), and one other item used only with boys (“people talked about you”) may reflect hypervigilance but is not clearly a PTSD symptom:

- Have you ever in your whole life had something very bad or terrifying happen to you?
- Have you ever been badly hurt, or been in danger of getting badly hurt or killed?
- Have you seen someone severely injured or killed (in person – not in movies or on TV)?
- Have you ever been raped, or been in danger of getting raped? (scored only for girls)
- Have you had a lot of bad thoughts or dreams about a bad/scary event that happened to you?
- Have people talked about you a whole lot when you’re not there? (scored only for boys)

Unlike all other MAYSI-2 scales, TE does not yield a risk level (“caution” or “warning”), and therefore endorsement of  $\geq 2$  TE items was used as a proxy for risk of traumatic stress problems consistent with MAYSI-2 empirically-based scoring rules derived for the TE scale for youth in juvenile detention settings (Kerig, Moeddel, & Becker, 2011).

The Structured Trauma Related Experiences and Symptoms Scale (STRESS) has 25 trauma history questions for lifetime and past-year exposure to 19 PTEs that were personally experienced or witnessed (e.g., severe injury or illness, actual or threatened physical or sexual

violence, maltreatment, extended separation from or death of a parent) and six types of adversity (e.g., emotional abuse, homelessness, impaired primary caregiver, physical or educational neglect). The STRESS symptom section assesses the 20 symptoms from the four DSM-5 PTSD symptom clusters, and two dissociative symptoms, using 23 items measured on a 4-point rating scale (*None, 1 Day, 2-3 Days, Most Days*) referencing the past week. Probable PTSD was determined using *DSM-5* criteria, with symptoms counted as present if endorsed as occurring on at least one day, and at least one form of impairment (with peers, family, or at school) endorsed. Trauma-related functional impairment is assessed with six questions addressing the primary psychosocial domains for adults (e.g., *spend time with friends and family, get along with people you live with, and be a good parent for your children*), with dichotomous (Yes-No) answers. Evidence of internal consistency reliability and convergent and construct validity was provided by analyses of STRESS results with a sample of maltreated youth (Grasso et al., 2015). In the current sample (the PVE cohort), Cronbach's Alpha for PTSD symptoms was 0.93.

Demographic and legal involvement data for youth were extracted from electronic archival records of the Connecticut Judicial Branch Court Support Services Division. Severity of legal charges was coded on a scale with 1 = Status Offense; 2 = Nonviolent Rule Violation Misdemeanor; 3 = Nonviolent Felony or Major Misdemeanor; 4 = Violent Assault, Threat or Harassment; 5 = Violent Sexual Offense. The highest charge associated with a unique juvenile court referral was coded for severity. For example, if a youth had two different juvenile court referrals for status offenses, that youth received a severity score of 2.

### **Data Analyses**

Aim 1 was addressed with a latent class analysis of the PVE sample STRESS PTE data with goodness of fit tested with the Bayesian Information Criteria (BIC; Schwartz, 1978)) and the Lo-Mendell-Rubin (LMR) adjusted likelihood ratio test (Lo, Mendell, & Rubin, 2001), followed by a cross-

tabulation/chi squared test of the association between poly-victimization status with MAYSI-2 TE risk status. Aim 2 was addressed with analyses of variance comparing the PVE cohort vs. each SAU cohort on 12-month follow-up legal outcome variables. Aim 3 was addressed by linear multiple regression analyses testing the effect of PVE vs. SAU controlling for demographics and 12-month baseline number of juvenile court referrals. PVE

### Findings

**Lifetime Potentially Traumatic Events (PTEs).** More than three-quarters of the PVE sample reported a history of exposure to at least one PTE (76%), and 35% reported four or more *types* of PTEs. Witnessing a family member arrested (41%) or severely ill/injured (39%), separation from a loved one (30%), community violence (23%), and life-threatening accidents (23%) were PTEs most often reported.

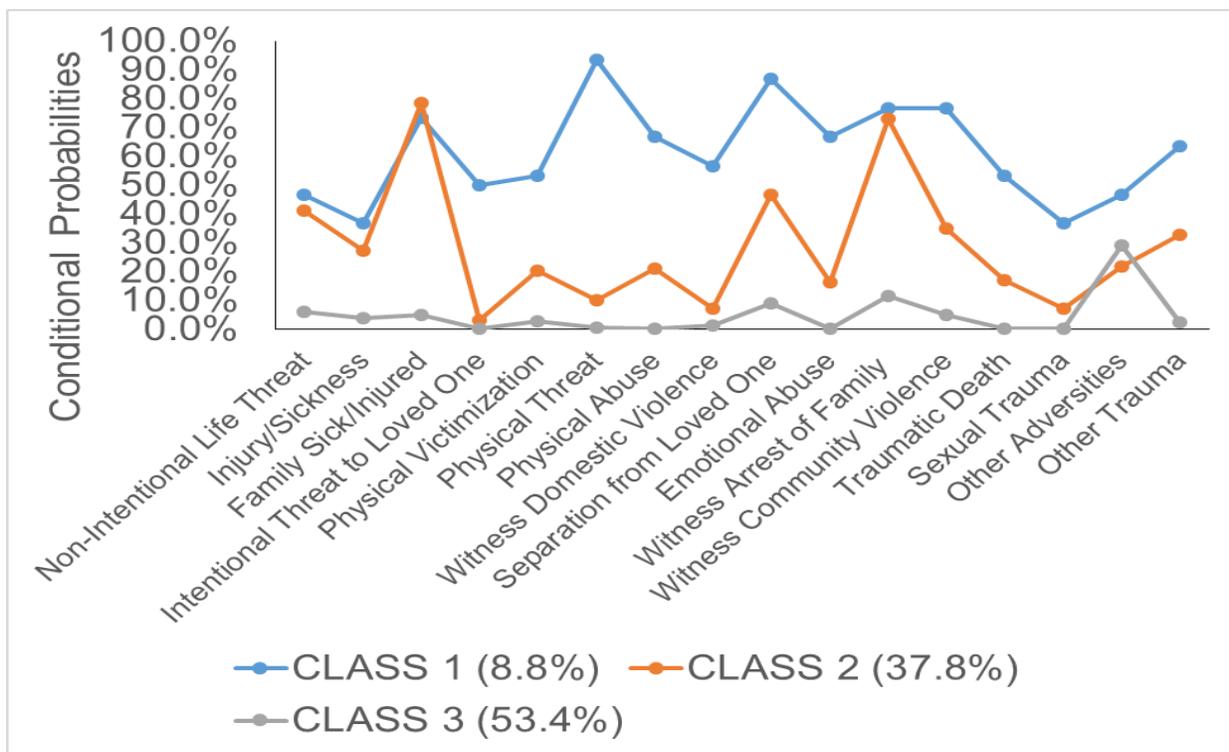
**Latent Class Analysis (LCA).** A 3-class solution produced the best fit to the STRESS PTE data (Table 1), including a poly-victim class (**PV**: 9% of PVE sample  $M=10$  PTE types; 37% female; 45% PTSD), a community violence/attachment adversity class (**CV/AD**: 38% of PVE sample;  $M=4.5$  PTE types; 23% female; 6% PTSD), and a stress/adversity class (**S/A**; 53% of PVE sample;  $M=1$  PTE type; 24% female; 3% PTSD) (see Figure 1). Youth in the PV class were significantly more likely to meet criteria for PTSD than youth in the CV/AD or S/A classes ( $X^2[2] = 40.71, p < .001$ ). Whereas 87-90% of the PV class members met criteria for PTSD intrusive re-experiencing, altered mood and cognitions, and hyperarousal symptom clusters, the CV/AD youth met criteria for these clusters 33-63% of cases, and the S/A youth in only 10-38% of cases. Similarly, 67% of the PV class members met criteria for PTSD avoidance symptoms, compared to 17% of CV/AD and 8% of S/A class members.

Although PV class members were somewhat more likely to be female than CV/AD or S/A class members, this difference was not statistically significant ( $X^2[2] = 2.37, p = .31$ ). Youth in the PV class were significantly more likely to be White (rather than of minority Black or Hispanic ethnoracial background) than youth in the CV/AD or S/A classes (52% vs. 21-22%,  $X^2[2] = 13.81, p = .001$ ).

**Table 1. Latent Class Analysis of Potentially Traumatic Event Types**

Fit Indices	Prmtrs	LL	BIC	LRT	Entropy	Class 1	Class 2	Class 3	Class 4
<b>1-Class</b>	16	-2437.9	4969.2	-	-	341	-	-	-
<b>2-Class</b>	33	-2079.4	4351.9	<.01	0.86	126 (37.0%)	215 (63.1%)	-	-
<b>3-Class</b>	50	-2009.7	4311.0	0.036	0.86	30 (8.8%)	129 (37.8%)	182 (53.4%)	-
<b>4-Class</b>	67	-1986.1	4362.9	0.572	0.84	55 (16.1%)	80 (23.5%)	189 (55.4%)	17 (5.0%)

**Figure 1. Latent Class Profiles of Exposure to Potentially Traumatic Events**



**Analyses Comparing Classes on MAYSI-2 Risk Status.** Based on MAYSI-2 warning and caution scores, PV youth were about twice as likely to report clinically significant addiction, anger, depression/anxiety, and somatic problems (40-64%) as CV/AD youth (16-30%), who were about twice as likely to be at risk as S/A youth (8-12%). PV youth were almost four times more likely than CV/AD youth to be at risk for suicidality/self-harm (25% vs. 7%), and more than 10 times more likely than S/A youth (2%). These differences were statistically significant,  $X^2[2] =$

6.93-39.48,  $p < .05$ .

When race, ethnicity, and age were controlled for in a linear multiple regression, LCA class membership demonstrated a significant association with the number of juvenile court referrals during the baseline year ( $B = .12, p = .03$ ). However, class membership was not associated with the number of disciplinary incidents in the index juvenile detention admission ( $B = -.02, p = .78$ ). When race, ethnicity, age, baseline year number of court referrals and the number of disciplinary incidents in juvenile detention were controlled for in a linear multiple regression, class membership was not associated with the number of detention readmissions ( $B = -.05, p = .35$ ), total number of days in detention readmissions ( $B = -.03, p = .62$ ), or number of juvenile court referrals ( $B = -.05, p = .39$ ) in the year following the index detention admission. Class membership did demonstrate a significant negative association with the severity of new juvenile court referrals in the follow-up year ( $B = -.17, p = .002$ ). Noting a small number of significant differences by class membership, mean differences between PV, CV/AD, and S/A classes on all baseline and outcome variables were calculated, controlling for the same demographic variables in the linear regression, using General Linear Modeling (GLM). Adjusted means (e.g., group means adjusted for all other factors) are reported in Table 2. Despite not finding a significant association between overall class membership with detention readmissions, the group comparison indicated that youth in the CV/AD class had approximately one more detention admission (Adjusted  $M = 2.03, SE = 0.17$ ), compared to both the PV (Adjusted  $M = 1.27, SE = 0.34$ ) and S/A class (Adjusted  $M = 1.47, SE = 0.14$ ).

PV class members also endorsed significantly more MAYSI-2 TE items ( $M = 2.8, SD = 1.8$ ), than CV/AD class members ( $M = 1.2, SD = 1.5$ ), who endorsed more than S/A class members ( $M = 0.4, SD = 0.9$ ),  $F[2/317] = 31.52, p < .001$ ). However, 45% of the PV class

members endorsed two or fewer TE items, indicating that many poly-victimized youth were not identified by the MAYSI-2 TE. When alternative MAYSI-2 risk algorithms were examined, the risk profile with the best overall accuracy (86%) and positive predictive value (0.32) had strong specificity and negative predictive value for identifying PV class members (0.95) but weak sensitivity (55%) that was no greater than simply using a TE cut-off of 3 or more items endorsed.

**Table 2. Victimization Classes' Adjusted Mean Outcomes**

Variable	PV <i>M (SE)</i>	CV/AD <i>M (SE)</i>	S/A <i>M (SE)</i>	<i>F</i>	<i>p</i>
Baseline Juv Ct. Referrals*	6.70(0.56)	5.23 (0.59)	5.01 (0.94)	0.81	.45
Disciplinary Incidents in Detention*	0.76 (0.60)	0.69 (0.38)	1.52 (0.36)	0.72	.49
Number Detention** Readmits	1.27 (0.34) <sub>a</sub>	2.03 (0.17) <sub>b</sub>	1.47 (0.14) <sub>a</sub>	3.85	.02
Number of Detention Days**	31.34 (9.96)	49.66 (5.00)	38.14 (4.12)	2.19	.11
Number of Juv Ct. Referrals**	3.15 (0.50)	3.23 (0.25)	2.93 (0.21)	0.44	.65
Juv Ct. Referral Severity**	9.92 (1.51)	9.77 (0.76)	9.03 (0.62)	0.35	.71

\*Main effect adjusted for race, ethnicity, age at admission

\*\*Main effect adjusted for race, ethnicity, age at admission, baseline number of court referrals, and number of disciplinary incidents in detention

**Screening Cohorts' 12-Month Legal Outcomes.** After correcting for multiple tests ( $p < .01$ ), the PVE and SAU cohorts did not differ on the average number of past-year court referrals,  $F(2, 817) = .43, p = .65$ , discipline incidents while in detention,  $F(2, 856) = 3.47, p = .03$ , number of juvenile court referrals,  $F(2, 856) = 3.14, p = .04$ , or severity of legal charges in the subsequent year,  $F(2, 855) = 4.23, p = .02$ , and the three cohorts did not differ on these outcomes based on *post hoc* Scheffe tests of group means ( $p > .05$ ) (see Table 3). The PVE cohort did however have

significantly more detention readmissions,  $F(2, 856) = 37.24, p < .001$  and days in detention during the follow-up period,  $F(2, 855) = 20.26, p < .001$  than either SAU cohorts with Scheffe tests confirming the PVE vs. SAU difference as statistically significant.

**Table 3. Comparison of Screening Cohorts  
on Baseline and Follow-up Legal Status Variables.**

Variable	PV Cohort <i>M (SD)</i>	SAU Proximal <i>M (SD)</i>	SAU Distal <i>M (SD)</i>	<i>F</i>	<i>p</i>
Baseline Court Referrals	6.72 (4.26)	6.50 (3.87)	6.40 (3.69)	0.43	.65
Incidents in Detention	1.07 (3.27) <sub>a</sub>	0.56 (1.65) <sub>b</sub>	0.85 (2.62) <sub>a</sub>	3.47	.03
Number Readmissions	1.56 (1.96) <sub>a</sub>	0.75 (1.24) <sub>b</sub>	0.50 (0.96) <sub>b</sub>	37.24	< .001
Number of Detention Days	39.92 (61.69) <sub>a</sub>	18.65 (42.77) <sub>b</sub>	14.48 (45.45) <sub>b</sub>	20.26	< .001
Number Court Referrals	2.93 (2.91)	2.41 (2.63)	2.51 (3.06)	3.14	.04
Court Referral Severity	9.13 (8.89) <sub>a</sub>	7.28 (8.13) <sub>b</sub>	7.54 (9.50) <sub>b</sub>	4.23	.02

Note: Groups with different subscripts differ on Scheffe tests  $p < .05$

When race, ethnicity, age, and baseline year number of court referrals were controlled for in a linear multiple regression, the PVE cohort had on average more disciplinary incidents while in the index detention admission than the proximal SAU cohort. However, the PVE cohort was no different than the distal SAU cohort on average number of behavioral incidents in the index detention admission (Table 4).

**Table 4. Disciplinary Incidents in Index Juvenile Detention Admission**

<u>PVE v. Proximal SAU</u>	<u>Unstandard B</u>	<u>Standard Error</u>	<u>Standardized B</u>	<u>t</u>	<u>p</u>
Age	-.259	.068	-.149	-3.801	.000
Gender	-.013	.208	-.002	-.063	.950
Race = Black	.182	.227	.039	.803	.422
Ethnicity = Hispanic	-.142	.244	-.028	-.581	.562
Baseline Court Referrals	.079	.022	.140	3.615	.000
Cohort PVE v. SAU	-.403	.177	-.087	-2.278	.023
<u>PVE vs. Distal SAU</u>					
Age	-.499	.092	-.242	-5.425	.000
Gender	.011	.283	-.002	-.038	.969
Race = Black	.124	.303	.022	.408	.663
Ethnicity = Hispanic	-.299	.324	-.050	-.922	.357
Baseline Court Referrals	.127	.029	.187	4.299	.000
Cohort PVE v. SAU	-.006	.124	-.002	-.052	.959

When race, ethnicity, age, baseline year number of court referrals, and disciplinary incidents in the index detention admission were controlled for in additional linear multiple regression analyses (Table 5), the PVE cohort had on average more detention readmissions than both SAU cohorts and a higher severity of legal charges and number of court referrals in the follow-up year than the proximal (but not distal) cohort.

**Table 5. Legal Status Outcomes in the Follow-up Year after Juvenile Detention Admission****Table 5a. Number of Detention Readmissions**

<u>PVE vs. Proximal SAU</u>	<u>Unstandard B</u>	<u>Standard Error</u>	<u>Standardized B</u>	<u>t</u>	<u>p</u>
Age	-.204	.048	-.160	-4.300	.000
Gender	-.135	.143	-.034	-.944	.345
Race = Black	.235	.156	.069	1.506	.133
Ethnicity = Hispanic	.215	.169	.059	1.277	.202
Baseline Court Referrals	.033	.015	.080	2.181	.030
Discipline Incidents	.171	.027	.233	6.365	.000
Cohort	-.745	.122	-.220	-6.096	.000

<u>PVE vs. Distal SAU</u>					
Age	-.199	.056	-.151	-3.527	.000
Gender	-.216	.168	-.052	-1.285	.199
Race = Black	.144	.180	.041	.798	.425
Ethnicity = Hispanic	.183	.193	.048	.948	.344
Baseline Court Referrals	.029	.018	.067	1.620	.106
Discipline Incidents	.147	.026	.232	5.553	.000
Cohort	-.543	.074	-.295	-7.364	.000

**Table 5b. Average Severity of Legal Charges at Follow-up**

<u>PVE vs. Proximal SAU</u>	<u>Unstandard B</u>	<u>Standard Error</u>	<u>Standardized B</u>	<u>t</u>	<u>p</u>
Age	-.172	.042	-.165	-4.141	.000
Gender	.015	.125	.005	.122	.903
Race = Black	-.023	.137	-.008	-.171	.864
Ethnicity = Hispanic	-.002	.148	-.001	-.012	.990
Baseline Court Referrals	.014	.013	.040	1.024	.306
Incidents in Detention	.036	.024	.060	1.531	.126
Cohort	-.191	.107	-.069	-1.784	.075
<u>PVE vs. Distal SAU</u>					
Age	-.187	.048	-.182	-3.921	.000
Gender	.022	.142	.007	.151	.880
Race = Black	.151	.153	.054	.983	.326
Ethnicity = Hispanic	.042	.164	.014	.259	.796
Baseline Court Referrals	.022	.015	.066	1.463	.144
Incidents in Detention	.032	.022	.063	1.404	.161
Cohort	-.169	.063	-.117	-2.695	.007

**Table 5c Average Number of Juvenile Court Referrals at Follow-up**

<u>PVE vs. Proximal SAU</u>	<u>Unstandard B</u>	<u>Standard Error</u>	<u>Standardized B</u>	<u>t</u>	<u>p</u>
Age at Current Detention Admission	-.539	.077	-.260	-6.960	.000
Gender	.306	.236	.048	1.296	.195
Race = Black	.208	.257	.038	.806	.420
Ethnicity = Hispanic	-.140	.278	-.023	-.504	.615

Total Number of Baseline Juvenile Court Referrals Cohort	.186	.025	.278	7.510	.000
	-.485	.201	-.088	-2.413	.016
<u>PVE vs. Distal SAU</u>					
Age at Current Detention Admission	-.607	.093	-.278	-6.504	.000
Gender	-.018	.287	-.003	-.062	.950
Race = Black	-.026	.307	-.004	-.083	.934
Ethnicity = Hispanic	-.097	.329	-.015	-.294	.769
Total Number of Baseline Juvenile Court Referrals Cohort	.220	.030	.309	7.385	.000
	-.206	.126	-.067	-1.631	.104

### **Implications for Criminal Justice Policy and Practice in the United States**

Contrary to study expectations, poly-victimization-enhanced screening was not associated with improved behavioral or legal status during the index detention admission nor in the subsequent year. However, the less severe legal charges of both PV and CV/AD class members in the follow-up year, compared to the lower adversity S/A class members, indicates that further examination is warranted of the actual use of STRESS screening results by Detention staff in working with and developing post-detention service plans for both poly-victims and youths who have experienced substantial community and family adversity and loss. It cannot be determined from the present data whether staff and community-based juvenile justice personnel (e.g., probation officers) were better able to identify youths in need of trauma-informed and trauma-specific services, but this could be a path toward assisting these youths with targeted (and potentially more cost-effective) services than when the less accurate MAYSI risk scores are used to identify youths for whom these approaches to supervision and services are indicated.

Public sector systems serving children and families (e.g., schools, child welfare, juvenile justice) increasingly are seeking to become “trauma informed” based on evidence that most of the

youth involved in their services have been extensively exposed to traumatic stressors (Ko et al., 2008). Both systemic (Ford & Blaustein, 2012) and clinical/therapeutic (Ford, Kerig, Desai, & Feierman, 2016) interventions are available and empirically supported for justice-involved youth to address the adverse impact of PTSD. However, these interventions are unlikely to be included in juvenile justice service plans unless youth with the greatest needs related to victimization are identified, i.e., poly-victimized youth. A recent report that showed that juveniles charged as adults who reported past exposure to potentially traumatic events (PTEs) represented 71% of a sample of 144 consecutive court cases with this adjudication. The youths with a trauma history were found to have the most severe legal and behavioral problems (Riggs Romaine, Goldstein, Hunt, & DeMatteo, 2011). Youth with a lifetime history of exposure to one or more PTEs were those most likely to remain in criminal court, have prior arrests, report regular marijuana use, and have mental health diagnoses. Youth whose PTEs included having been directly victimized were most likely to have been placed out of the home and be diagnosed with other mental disorders. Although PTEs were identified for more than two-thirds of the youth, only 6% of the evaluations recommended trauma-specific services (Riggs Romaine et al., 2011). Whether this is the result of an under-utilization of specialized services for traumatized youth for whom services are needed, or of referral decisions tied to risks/needs over and above the presence of a trauma history, could not be determined. Systematic screening of justice-involved youth for poly-victimization and PTSD symptoms can provide a rational basis for identifying the sub-group among the large group of justice-involved traumatized youth for whom trauma-specific services are indicated. This also represents a logical extension of the initiatives over the past 25 years to identify justice-involved youths with mental health problems. Poly-victimized youth represent a sub-set of the youth with

mental health problems, and evidence-based trauma-specific services have been found to be more effective for these youths than general mental health services (Ford, 2017).

An implication of the project for research in the juvenile justice system is that major operational and methodological revisions may be necessary in order to adapt to unanticipated logistical barriers and challenges that arise in the host juvenile justice system(s). This project initially was designed as an experimental research study with youth assigned to Juvenile Court Masters-level clinical coordinators (CC) randomized to SAU or PVE. Each CC was receiving 6 to 8 referrals each month, and consecutively referred youths to each CC would be invited to give assent (and a parent or guardian to give consent) for each youth to participate until four youths were enrolled by each CC each month—yielding a projected project  $N=720$  youths in 15 months. However, at the project's outset the volume of referrals to CCs was greatly reduced by regulatory and funding changes that limited juvenile probation officers' ability to refer youths for clinical evaluations, leading to a  $> 90\%$  reduction in CC referrals. Therefore, in consultation with the Project Officer, a decision was made for juvenile probation officers (JPOs) to serve as the source of screening data, and for randomization to be done at the level of the Juvenile Court (with 12 Courts in Connecticut, 6 were assigned to SAU and 6 to PVE). JPOs administer the MAYSI-2 in a voice-delivered computer-based format to every youth in court-ordered supervision, and the Director of Juvenile Probation determined that the STRESS screener—because of its brevity and voice-delivered computer based format—could feasibly be added to JPO MAYSI-2 screening as standard practice. With access to completed screenings for all new JPO cases over a briefer (4 month) time period, a project  $N=800$  youth was projected, slightly higher than the original  $N$ . Six months of intensive coordination by the study team was required with juvenile probation administration in order to have the STRESS was installed with the requisite security precautions

on computers hosting the MAYSI-2 in each participating juvenile probation office, and all participating JPOs trained to implement and understand the results of the STRESS and provided with ongoing technical consultation. However, three months after the initial implementation of the STRESS by selected/trained JPOs, the Director of Juvenile Probation Services retired and the new probation administration decided to no longer include the STRESS in JPO intake screenings.

Independent of the PVE project, the investigators had been providing technical assistance to Connecticut's juvenile detention centers for more than a decade, and detention administrators had requested to add the STRESS to the standard intake screening. Detention centers have staff with counseling and correctional expertise who administer the MAYSI-2 screen by computer at intake, and facilitated the installation of the STRESS on the secure detention computer system and training on the STRESS for staff who conducted intake screenings with training on using the STRESS for intake data collection and planning. As a result, in consultation with the NIJ Project Officer, the current quasi-experimental time-cohort consecutive admission design was developed. The difficult challenges and substantial adjustments necessitated highlight the importance of a strong positive working relationship between investigators and juvenile justice administrators who are committed to ensuring that a project is completed successfully and able to communicate with all of the internal players in the system in order to vouch for and enable the investigators to get a "foot in the door" when necessary to request and gain key access and approvals.

The inclusion of two control cohorts permitted the study to conduct what was essentially an internal replication of the quasi-experimental comparison analyses. The first quasi-experimental comparison was based on a time-lag with two immediately temporally adjacent time periods. This comparison limited (but did not entirely eliminate) confounds associated with historically distinct time periods (e.g., due to changing law enforcement, court, or juvenile justice

regulations, policies, or procedures that could alter the composition or characteristics of the samples of detained youth). The second quasi-experimental comparison involved a lengthier time-lag (i.e., one year) but controlled for potential seasonal differences in the youth cohorts by sampling youths who were detained at the same time of year in two consecutive years.

The redacted data provided to the investigators did not, unfortunately, identify which detention site each youth attended, so it was not possible to determine whether the observed differences between the PVE and SAU cohorts were due to the additional information provided by the PVE instrument or due to differences (e.g., biases in decision-making, differences in training) in the procedures followed by detention center staff who made clinical referrals. All staff from both detention centers received the same pre-service and in-service trainings on screening and service referrals procedures, and both detention centers were subject to a single set of operational regulations and procedures for working with and making determinations regarding youths. Nevertheless, inclusion of detention site as an independent variable or moderator in regression analyses would have provided stronger inferences of the generalizability across detention sites of the observed effects of PVE.

The challenges faced by the project team, and the peregrinations required to adapt the procedures to accommodate unforeseen system challenges and ultimately sustain and complete the investigation, illustrate the real-world challenges facing interpersonal violence investigators conducting studies in public sector settings. The multiple challenges and resultant changes to the study design required flexibility on the part of not only the investigators but also the host agency and the funding agency. An ongoing dialogue between the investigators and the National Institute of Justice project officer and human subjects protection officer was essential to ensure that the integrity of the science was maintained and all appropriate human subjects protections

were preserved (including review by the local Institutional Review Board) at all stages of the project's evolution and implementation. This active collegial dialogue provided the necessary foundation for the logistical adaptations required by the shifting policies, personnel, and approvals relevant to the project which emanated from the host juvenile justice system.

The investigators had to achieve a balance between accommodating with creative flexibility and holding the line to preserve the methodological rigor and core objectives of the study. This was the case not once but repeatedly, with each iteration in the study design and protocol emerging as response to fluctuations in regulations, policies, workforce needs and preferences, new programming initiatives, and personnel at both the agency leadership and the line staff levels. The ultimate result was the collection of archival data from a large sample of standard-of-practice screenings of youth entering juvenile detention. These data included not only the results of screening with or without enhanced polyvictimization/PTSD data, but also retrospective and prospective variables representing each youth's legal status and court and detention referrals during the year before and the year after the detention intake screening.

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