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Unseen Wounds: The Contribution of Psychological Maltreatment to Child and Adolescent Mental Health and Risk Outcomes

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For this study, we evaluated the independent and additive predictive effects of psychological maltreatment on an array of behavioral problems, symptoms, and disorders in a large national sample of clinic-referred children and adolescents drawn from the National Child Traumatic Stress Network Core Data Set (CDS; see Layne, Briggs-King, & Courtois, 2014). We analyzed a subsample of 5,616 youth with lifetime histories of 1 or more of 3 forms of maltreatment: psychological maltreatment (emotional abuse or emotional neglect), physical abuse, and sexual abuse. Measures included the University of California, Los Angeles Posttraumatic Stress Disorder–Reaction Index (Steinberg et al., 2004), Child Behavior Checklist (Achenbach & Rescorla, 2004), and 27 diagnostic and CDS-specific clinical severity indicators. Psychologically maltreated youth exhibited equivalent or greater baseline levels of behavioral problems, symptoms, and disorders compared with physically or sexually abused youth on most indicators. The co-occurrence of psychological maltreatment with physical or sexual abuse was linked to the exacerbation of most outcomes. We found that the clinical profiles of psychologically maltreated youth overlapped with, yet were distinct from, those of physically and/or sexually abused youth. Despite its high prevalence in the CDS, psychological maltreatment was rarely the focus of intervention for youth in this large national sample. We discuss implications for child mental health policy; educational outreach to providers, youth, and families; and the development or adaptation of evidence-based interventions that target the effects of this widespread, harmful, yet often overlooked form of maltreatment.

Keywords: psychological maltreatment, emotional abuse and emotional neglect, physical and sexual abuse, clinical profiles of maltreated youth, complex trauma

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Nearly 3 million U.S. children experience some form of maltreatment annually, predominantly perpetrated by a parent, family member, or other adult caregiver (Children's Bureau, 2010). Although child maltreatment is often conceived as involving the deliberate infliction of physical harm, the American Academy of Pediatrics (AAP) has recently identified psychological maltreatment as "the most challenging and prevalent form of child abuse and neglect" (Hibbard et al., 2012, p. 372). Although more subtle to detect, emotional abuse and emotional neglect nevertheless account for 36% and 52% of identified child maltreatment cases, respectively (Chamberland, Fallon, Black, & Trocme, 2011; Sedlak et al., 2010; Tonmyr, Draca, Crain, & MacMillan, 2011).

Psychological maltreatment (PM) encompasses both emotional abuse and emotional neglect in that it is comprised of acts that constitute "persistent or extreme thwarting of the child's basic emotional needs," including "parental acts that are harmful because they are insensitive to the child's developmental level" (Barnett, Manly, & Cicchetti, 1993, p. 67,). The American Professional Society on the Abuse of Children (APSAC; Myers et al., 2002) defines psychological maltreatment as "a repeated pattern of caregiver behavior or a serious incident that transmits to the child that s/he is worthless, flawed, unloved, unwanted, endangered, or only of value in meeting another's needs." PM may also involve "spurning, terrorizing, exploiting or rejecting" the child (Kairys, Johnson, and Committee on Child Abuse & Neglect, 2002, p. 68). PM represents a breach in the attachment relationship between caregiver and child through (a) a lack of emotional nurturance, attunement, and responsiveness (emotional neglect) and/or (b) overt acts of verbal and emotional abuse that (c) result in harm to the child, disruptions of psychological safety, and impediments to the normative development of essential capacities such as emotion regulation, self-acceptance and -esteem, autonomy, and self-sufficiency (English & the LONGSCAN Investigators, 1997; Wolfe & McIsaac, 2011).

Whereas PM may be perpetrated by individuals outside the family system (e.g., teachers, peers), available evidence and guiding theory suggest that PM inflicted by a primary caregiver in early childhood, or chronically throughout childhood and adolescence, is more deleterious to the child's overall development (D'Andrea, Ford, Stolbach, Spinazzola, & van der Kolk, 2012). In a series of prospective studies examining the impact of verbally abusive or psychologically unavailable behaviors of mothers, the Minnesota Mother–Child Interaction Project (Egeland, Sroufe, & Erickson, 1983) found that children experiencing PM displayed a range of emotional and behavioral difficulties across development. These difficulties included increased internalizing and externalizing behaviors, negative self-esteem, impulsivity, and "pathological" behaviors, including tics, tantrums, stealing, enuresis, self-punishing behaviors, and clinginess (Egeland, Sroufe, & Erickson, 1983).

Although PM typically co-occurs with other forms of abuse and neglect, its incidence in the absence of other forms of maltreatment is more common than recognized (Hart, Brassard, & Karlson, 1996). It is important to distinguish between PM and characteristics of dysfunctional parenting (e.g., inconsistent, chaotic, emotionally dysregulated parenting; Wolfe & McIsaac, 2011) that fall below the threshold of maltreatment, yet may co-occur with or lead to PM. PM is distinct from dysfunctional parenting in that PM is characterized by a "chronic, severe and escalating pattern of emotionally abusive and neglectful parental behavior" combined with increased risk of psychological harm to the child (Wolfe & McIsaac, 2011).

Despite the notably high federal prevalence data cited earlier, the *perceived* prevalence of PM in the United States appears to depend heavily on where one looks and whom one asks. For example, official reports of PM to child welfare agencies portray PM as a relatively rare phenomenon: Only 7.6% of official reports to child welfare agencies identified the occurrence of PM in 2009 (Children's Bureau, 2010). PM is also less likely to be investigated: 53% of physical abuse and 55% of sexual abuse reports, but only 36% of PM reports, were investigated in 2009 (Sedlak et al., 2010). Community sample studies estimate rates of PM of between 21% and 80%—findings that denote a more variable and pervasive problem than indicated by some governmental reports (Chamberland et al., 2005; Clement & Chamberland, 2007). In a national clinical dataset of over 11,000 trauma-exposed youth, Briggs and colleagues identified PM as the most prevalent (38%) form of maltreatment, and the fourth most prevalent of 20 trauma types assessed (Briggs et al., 2013). These discrepancies between governmental and community estimates suggest that PM is underrecognized as a distinct and consequential form of maltreatment.

Further complicating the picture, PM can be elusive and insidious, and its very nature allows it to hide in plain sight (Hart & Glaser, 2011; Trocme et al., 2011). For example, a review of child-protective services case records for maltreated children revealed that, whereas over 50% of cases had experienced parental emotional abuse, its presence was officially noted in only 9% of the cases (Trickett, Mennen, Kim, & Sang, 2009). Unlike other forms of childhood maltreatment, PM does not carry a strong social taboo, nor does it result by itself in physical wounds, which often make it harder to identify and substantiate as part of the child-protective service process. The comparatively covert nature of PM can thus lead investigators to focus on other more "tangible" forms of maltreatment, as well as to adopt an apathetic or helpless outlook regarding how best to intervene. Perhaps of greatest concern (and of greatest relevance to the theme of this special section), laypersons, professionals, and larger systems may be induced to deny that PM constitutes a distinct form of abuse that carries its own potentially unique risks and consequences, and thus discount PM or misattribute its pernicious effects to other factors (Chamberland et al., 2005; Twaite & Rodriguez-Srednicki, 2004). The inherent subtlety and lack of recognition of PM as a pernicious form of abuse, per se, may thus contribute to its infrequent selection by practitioners as a primary focus of child-trauma intervention, or to the fact that few interventions exist that explicitly target PM (NCTSN, 2011).

The Impact of Psychological Maltreatment

PM has been theorized to produce adverse developmental consequences equivalent to, or more severe than, those of other forms of abuse (Hart, Brassard, & Karlson, 1996). PM also incrementally predicts maladjustment above and beyond the predictive effects of other forms of abuse (Schneider, Ross, Graham, & Zieliniski, 2005). Of particular relevance to this special section, PM tends to co-occur with other forms of maltreatment (McGee, Wolfe, & Wilson, 1997; Wachter, Murphy, Kennerley, & Wachter, 2009). PM is thus difficult to "unpack," at both conceptual and methodological levels of analysis, with respect to its incremental and

potentially unique contributions to "risk factor caravans" (Layne et al., 2009, 2014).

These challenges notwithstanding, PM has emerged as a significant predictor of a broad range of negative youth outcomes. Youth with histories of PM exhibit elevated rates of inattention, aggression, noncompliance, hyperactivity, conduct problems, and delinquency (Caples & Barrera, 2006; Hart, Brassard, & Karlson, 1996; Manly, Kim, Rogosch, & Cicchetti, 2001). PM has also been linked to internalizing symptoms, including anxiety, depression, PTSD, suicidality, and low self-esteem (McGee et al., 1997; Stone, 1993; Wolfe & McGee, 1994).

Differential Predictive and Potentiating Effects

Growing evidence suggests that PM may exert negative predictive (and potentially causal) effects above and beyond those of other forms of maltreatment. Examining the predictive effects of physical and sexual abuse, neglect, PM, and domestic violence on adolescent outcomes, McGee and colleagues found that PM accounted for the largest proportion of unique variance in externalizing symptoms and potentiated the adverse effects of other maltreatment types (McGee et al., 1997). Similarly, compared with sexual and physical abuse, parental verbal abuse was associated with the largest predictive effects on measures of dissociation, depression, and anger/hostility in young adults (Teicher, Samson, Polcari, & McGreenery, 2006). Further, Schneider and colleagues found that PM incrementally predicted maladjustment in adolescents above and beyond the predictive effects of other forms of maltreatment (Schneider et al., 2005).

The Present Study

This study sought to build on prior research on the independent as well as incremental or synergistic predictive effects of PM on a wide range of child and adolescent clinical and risk indicators, when compared with other forms of maltreatment. We examined baseline assessment data from maltreated youth, as archived in the National Child Traumatic Stress Network (NCTSN) Core Data Set (CDS; see Layne et al., 2014), to test two basic hypotheses: (1) Youth reporting PM will exhibit equivalent or higher baseline levels of symptom severity, risk behavior, and functional impairment compared with physically or sexually abused youth, and (2) the co-occurring presence of PM with physical or sexual abuse will be associated with worse clinical outcomes compared with outcomes among other categories of maltreated youth (i.e., those who report only physical, only sexual, or combined physical and sexual abuse).

Method

The CDS contains data collected between 2004 and 2010 on 14,088 children from 56 participating NCTSN centers. The CDS includes information on demographics, family characteristics, service use, trauma exposure, functioning, and standardized assessments of emotional–behavioral problems. NCTSN procedures for gathering CDS data are described in detail elsewhere (Briggs et al., 2012; Layne et al., 2014).

Study Sample

Hypotheses were tested on the entire subpopulation of children and adolescents in the NCTSN with lifetime histories of exposure to one or more of the three maltreatment categories targeted for consideration in this study: psychological maltreatment (PM), sexual abuse (SA), physical abuse (PA). Accordingly, the study sample consisted of 5,616 children, comprised of 2,379 (42%) boys and 3,237 girls. Maltreated youth were categorized into seven mutually exclusive groups based upon their respective exposures to one or more of the three index maltreatment types (see Table 1). Racial and ethnic distribution included 2,122 (38%) White, 1,183 (21%) Black/African American, 1,685 (30%) Hispanic/Latino, 406 (7%) other, and 220 (4%) unknown/missing. Age at baseline CDS assessment of participants reporting only one maltreatment type averaged 1–2 years younger than the ages of youth exposed to two or more maltreatment types ($p < .0001$). In addition, a larger proportion of sexually abused participants were girls (73% of female cases were positive for SA).

Measures

Standardized assessments.

UCLA Posttraumatic Stress Disorder-Reaction Index (PTSD-RI). PTSD-RI (Steinberg et al., 2013) is a widely used, 22-item clinician-administered or self-report measure of the 4th edition of *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–IV*; APA, 1994) PTSD symptoms and traumatic events experienced by youth 7–18 years of age (Steinberg et al., 2004). Total-scale scores were computed and used in the present study. Psychometric properties in the CDS are robust (Steinberg et al., 2013).

Child Behavior Checklist (CBCL). CBCL (Achenbach & Rescorla, 2004) is a widely used and well-validated caregiver-report measure (113 items) for children 1.5–5 and 6–18 years of age that yields scores on a wide range of empirically based syndrome scales. Two broad-band scales (Internalizing: CBCL-Int. and Externalizing Behavioral Problems: CBCL-Ext.) were used (Achenbach & Rescorla, 2004).

CDS-specific measures.

Trauma history. The Trauma History Profile (THP; see Pynoos et al., 2014, pp. S9–S17) is a multi-informant tool for assessing children's broad-spectrum trauma histories across childhood and adolescence. The present study focused on three maltreatment-specific variables assessed by the THP: (a) emotional abuse/psychological maltreatment (PM), defined as caregiver-inflicted emotional abuse (e.g., bullying, terrorizing, coercive control), verbal abuse (e.g., severe insults, debasement, or threats), overwhelming demands, and/or emotional neglect (e.g., shunning, isolation); (b) physical abuse/maltreatment (PA), defined as actual or attempted caregiver infliction of physical pain or bodily injury; and (c) sexual abuse/maltreatment (SA), defined as actual or attempted sexual molestation, exploitation, or coercion by a caregiver.

Indicators of severity and clinical evaluation. This study included 12 clinician-rated indicators of severity spanning a range of behavioral problems, risk behaviors, and types of functional impairments (e.g., behavior problems at home, suicidality). Measures also included 15 clinician-rated items from the CDS clinical evaluation form assessing behaviors, symptoms of distress, and

Table 1
Descriptive Statistics for the Child Behavior Checklist (CBCL) and the UCLA Posttraumatic Stress Disorder Reaction Index (PTSD-RI) by Child Maltreatment Comparison Groups

Variable	Sexual abuse (SA; $N = 1084$)		Physical abuse (PA; $N = 826$)		Psychological maltreatment (PM; $N = 1339$)		Sexual & physical abuse ($N = 250$)		Psychological & sexual abuse ($N = 313$)		Psychological & physical abuse ($N = 1246$)		All three ($N = 558$)		Group significance
Male***	263 (24.3)		451 (54.7)		651 (48.7)		86 (34.4)		69 (22.0)		681 (54.7)		178 (31.9)		
Race***															
White/Caucasian	338 (31.2)		222 (26.9)		584 (43.6)		91 (36.4)		132 (42.2)		501 (40.2)		254 (45.5)		
Black/AA	282 (26.0)		265 (32.1)		205 (15.3)		70 (28.0)		51 (16.3)		209 (16.8)		101 (18.1)		
Hispanic/Latino	346 (31.9)		218 (26.4)		413 (30.8)		63 (25.2)		101 (32.2)		390 (31.3)		154 (27.6)		
Other	58 (5.4)		54 (6.5)		111 (8.3)		11 (4.4)		21 (6.7)		110 (8.8)		41 (7.4)		
Unknown/missing	60 (5.5)		67 (8.1)		26 (1.9)		15 (6.0)		8 (2.6)		36 (2.9)		8 (1.4)		
	N	*M (SD)*	*N*	*M (SD)*	*N*	*M (SD)*	*N*	*M (SD)*	*N*	*M (SD)*	*N*	*M (SD)*	*N*	*M (SD)*	
Age at baseline***	1084	10.1 (4.2)	826	10.6 (4.2)	1339	10.6 (4.4)	250	11.1 (4.1)	313	12.0 (3.9)	1246	11.1 (4.3)	558	12.4 (4.0)	
CBCL subscales															
Externalizing behavior	832	59.6 (11.9)	542	63.8 (11.6)	1023	63.0 (11.5)	184	64.4 (11.3)	225	64.4 (11.3)	901	64.3 (11.1)	390	64.8 (10.4)	B^{**}, C^{-*}, E^{**}
Internalizing behavior	832	60.4 (12.0)	542	60.3 (11.3)	1023	62.1 (11.3)	184	62.7 (11.2)	225	63.4 (10.7)	901	63.4 (10.3)	390	64.3 (10.8)	A^{**}, B^{**}, D^{***}, E^{*}
UCLA PTSD Reaction Index	698	26.7 (14.7)	544	25.9 (14.8)	825	26.6 (14.6)	177	28.5 (15.5)	231	30.0 (14.8)	841	28.9 (14.5)	419	33.0 (14.1)	D^{*}, E^{**}

Note. A = PM greater than PA; B = PM greater than SA; C = PM greater than SA + PA; D = PM + PA greater than PA; E = PM + SA greater than SA. Negative association is indicated by "–" sign. Age at baseline significant for externalizing and internalizing behavior. Gender significant for externalizing behavior and the UCLA Posttraumatic Stress Disorder Reaction Index.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .0001$.

mental health disorders characteristic of *DSM–IV* (APA, 1994) diagnoses (e.g., dissociation, ADHD, PTSD). Both sets of indicators were measured on 3-point scales (see Kisiel et al., 2014, pp. S29–S39). For the present study, responses were collapsed into binary variables assessing item presence or absence (see Table 2 for a complete list of variables included in the statistical models).

Data Analysis

Descriptive statistics and frequencies for demographic characteristics were grouped by maltreatment type and examined using chi-square tests and ANOVA for categorical and continuous variables, respectively. We used linear mixed-effects regression models to compare maltreatment groups on continuous measures, including PTSD-RI (Steinberg et al., 2004) total symptom scores, CBCL-Int. and CBCL-Ext. (Achenbach & Rescorla, 2004) composite behavior-problem-scale scores. Models included the participant's age at intake, gender, and center-level random effects that accounted for correlations between participants nested within centers. For binary variables, we used generalized estimating-equation (GEE) logistic models adjusted for age at baseline and gender (as covariates) to evaluate differences between maltreatment groups. We investigated our two study hypotheses using various model contrasts to evaluate five comparisons of interest: (a) PM versus PA, (b) PM versus SA, (c) PM versus PA + SA, (d) PM + PA versus PA, and (e) PM + SA versus SA. We then plotted the estimated odds ratios (*OR*) and 95% confidence intervals (CI) for the binary measures. We conducted all analyses using SAS Version 9.2 for Windows and generated all graphs using publicly available R software (R Development Core Team, 2014).

Results

Between-Group Comparisons on the CBCL and PTSD-RI

Table 1 presents the unadjusted scores by maltreatment group and results of the comparisons of interest. The linear mixed-effects regression model adjusted for gender and age at baseline revealed (a) the PM group had significantly higher CBCL Int. scores (Achenbach & Rescorla, 2004) than both the PA (estimated difference = 1.77, $SE = 0.61$; $p = .0039$) and SA (estimated difference = 1.47, $SE = 0.56$; $p = .0088$) groups, (b) the PM group had significantly higher CBCL-Ext. scores (Achenbach & Rescorla, 2004) than the SA group (estimated difference = 2.05, $SE = 0.58$; $p = .0004$), (c) no significant differences were found between the PM versus PA or SA groups on PTSD-RI scores, and (d) although the PM group had marginally lower CBCL-Ext. scores than the PA + SA group (estimated difference = −1.85, $SE = 0.93$; $p = .0465$), the two groups had similar CBCL-Int. and PTSD-RI (Steinberg et al., 2004) scores.

Contribution of PM to Predicting Indicators of Severity and Clinical Evaluation Scores

Comparison of PM group to single-type PA and SA groups. Table 2 lists the respective frequencies for the indicators of severity and clinical evaluation items for each maltreatment group. The PM group had similar or higher frequencies than both the PA and

Table 2
Frequency of Indicators of Severity and Clinical Evaluation by Maltreatment Comparison Groups

Indicators of severity	Sexual abuse (SA) *N* (%)	Physical abuse (PA) *N* (%)	Psychological maltreatment (PM) *N* (%)	Sexual & physical abuse (SA + PA) *N* (%)	Psychological maltreatment & sexual abuse (PM + SA) *N* (%)	Psychological maltreatment & physical abuse (PM + PA) *N* (%)	All three *N* (%)	Group significance
Academic problems	392 (39.4)	391 (52.3)	673 (54.8)	113 (51.8)	159 (54.6)	691 (59.6)	312 (61.2)	B^{***}, D^{**}, E^{**}
Behavior problems at school	343 (34.3)	372 (49.3)	600 (48.3)	114 (52.3)	127 (44.1)	616 (52.9)	265 (52.0)	B^{***}, E^{**}
Skipping school or daycare	88 (8.8)	77 (10.2)	167 (13.5)	32 (14.4)	52 (17.9)	176 (15.0)	80 (15.7)	A^{*}, B^{*}, D^{*}, E^{*}
Behavior problems at home	474 (47.0)	459 (59.9)	828 (65.5)	142 (64.0)	175 (59.5)	848 (71.3)	362 (68.6)	A^{**}, B^{***}, D^{***}, E^{***}
Suicidality	153 (15.4)	103 (13.5)	166 (13.4)	41 (18.5)	62 (21.4)	243 (20.8)	147 (28.3)	B^{-*}, D^{**}
Self-injurious behaviors	112 (11.2)	87 (11.5)	186 (14.9)	37 (16.7)	54 (18.6)	220 (18.6)	132 (25.4)	A^{*}, B^{**}, D^{***}, E^{**}
Sexualized behaviors	267 (26.9)	112 (15)	181 (14.5)	63 (28.6)	94 (32.4)	194 (16.7)	194 (37.7)	B^{-***}, C^{-***}, E^{**}
Alcohol abuse	41 (4.1)	41 (5.4)	97 (7.7)	14 (6.4)	24 (8.3)	96 (8.3)	40 (7.8)	B^{*}
Substance abuse	41 (4.2)	47 (6.3)	112 (9.0)	13 (6.0)	31 (10.7)	126 (10.9)	50 (9.9)	B^{**}, C^{*}, D^{*}, E^{*}
Attachment problems	298 (33.8)	302 (47.7)	635 (52.5)	101 (52.1)	152 (52.8)	674 (58.7)	344 (67.5)	B^{***}, D^{***}, E^{***}
Criminal activity	34 (3.4)	53 (6.9)	99 (7.8)	22 (10.0)	23 (7.8)	136 (11.5)	56 (10.7)	B^{**}, D^{**}
Running away	52 (5.1)	46 (6.0)	79 (6.2)	17 (7.7)	34 (11.5)	121 (10.2)	65 (12.4)	D^{*}, E^{*}
				Clinical evaluation				
Acute stress disorder	129 (14.1)	88 (12.1)	220 (18.6)	25 (11.7)	54 (19.9)	205 (18.1)	109 (21.8)	A^{***}, B^{*}, C^{*}, D^{**}, E^{*}
Posttraumatic stress disorder	636 (68.3)	441 (59.9)	674 (57.0)	164 (75.6)	225 (82.1)	867 (75.5)	445 (88.7)	B^{-***}, C^{-***}, D^{***}, E^{***}
Traumatic/complicated grief	177 (21.5)	224 (35.2)	375 (32.1)	59 (30.6)	102 (37.8)	393 (34.6)	223 (44.5)	B^{***}, E^{***}
Dissociation	155 (16.9)	100 (13.7)	170 (14.4)	38 (17.6)	67 (24.9)	263 (23.1)	181 (36.3)	D^{***}, E^{*}
Somatization	138 (16.7)	90 (14.3)	190 (16.2)	30 (15.5)	58 (21.5)	215 (19.0)	143 (28.7)	D^{*}
Generalized anxiety disorder	319 (34.7)	243 (33.1)	572 (48.4)	71 (33.2)	139 (51.3)	572 (50.2)	252 (50.3)	A^{***}, B^{***}, C^{***}, D^{***}, E^{***}
Separation anxiety disorder	104 (11.3)	86 (11.8)	179 (15.1)	18 (8.4)	35 (12.9)	208 (18.3)	83 (16.6)	B^{**}, C^{*}, D^{***}
Depression	438 (47.3)	372 (50.7)	680 (57.5)	107 (49.1)	195 (71.4)	758 (66.2)	365 (72.6)	A^{**}, B^{***}, C^{**}, D^{***}, E^{***}
Attachment problems	238 (25.8)	263 (36.1)	532 (44.9)	83 (38.4)	127 (46.9)	623 (54.5)	309 (61.6)	A^{**}, B^{***}, D^{***}, E^{***}
Oppositional defiant disorder	151 (16.4)	193 (26.4)	279 (23.8)	50 (23.3)	71 (26.1)	325 (28.6)	157 (31.4)	B^{**}, E^{**}
Conduct disorder	42 (4.6)	76 (10.4)	77 (6.5)	13 (6.1)	21 (7.7)	128 (11.2)	60 (12.0)	A^{-**}
General behavioral problems	347 (41.8)	377 (59.2)	596 (50.9)	102 (52.9)	139 (51.3)	675 (59.2)	298 (59.6)	A^{-**}, B^{*}, E^{**}
Attention deficit hyperactivity	198 (21.6)	258 (35.3)	344 (29.1)	60 (27.9)	67 (24.6)	375 (32.9)	140 (27.8)	A^{-*}
Suicidality	88 (9.6)	89 (12.2)	118 (10.0)	23 (10.7)	45 (16.5)	156 (13.7)	118 (23.6)	
Sleep disorder	131 (15.8)	86 (13.7)	166 (14.2)	33 (17.2)	48 (17.7)	180 (15.8)	111 (22.2)	

Note. A = PM greater than PA; B = PM greater than SA; C = PM greater than SA + PA; D = PM + PA greater than PA; E = PM + SA greater than SA. Negative association is indicated by "–" sign. Age significant for everything except generalized anxiety disorder. Gender significant for academic problems, behavior problems at school and home, self-injurious behavior, attachment problems, criminal activity, posttraumatic stress disorder, dissociation, somatization, obsessive–compulsive disorder, conduct disorder, general behavioral problems, attention deficit hyperactivity disorder, and suicidality.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .0001$.

SA groups on 21 of 27 indicators of risk behaviors, behavioral problems, functional impairments, symptoms, and disorders. Figures 1 and 2 depict the adjusted *OR*s and corresponding 95% CIs for all indicators.

Compared with the PA group, the PM group had significantly higher odds on five indicators: behavior problems at home (*OR* = 1.29, 95% CI: 1.07–1.55; $p = .0076$), attachment problems (*OR* = 1.42, 95% CI: 1.17–1.71; $p = 0.0004$), depression (*OR* = 1.46, 95% CI: 1.20–1.79; $p = 0.0002$), acute stress disorder (ASD; *OR* = 1.69, 95% CI: 1.29–2.20; $p = 0.0001$), and generalized anxiety disorder (GAD; *OR* = 1.91, 95% CI: 1.57–2.31; $p < .0001$); and marginally higher odds than the PA group on two indicators: skipping school or day care (*OR* = 1.43, 95% CI: 1.06–1.92; $p = 0.0207$) and self-injurious behaviors (*OR* = 1.34, 95% CI: 1.02–1.77; $p = 0.0345$).

Compared with the SA group, the PM group had higher frequencies on the majority (17 of 27; 63%) of outcomes, with estimated *OR*s ranging from 1.46 to 2.47. The PM group had significantly lower frequencies on only three study indicators compared with both the PA group: conduct disorder (CD; *OR* = 0.63, 95% CI: 0.45–0.89; $p = 0.0075$), general behavior problems (*OR* = 0.72, 95% CI: 0.59–0.88; $p = 0.0012$), and attention deficit hyperactivity (*OR* = 0.78, 95% CI: 0.64–0.95; $p = 0.0149$); and the SA group: sexualized behaviors (*OR* = 0.47, 95% CI: 0.38–0.58; $p < .0001$), PTSD (*OR* = 0.63, 95% CI: 0.52–0.76; $p < .0001$) and, marginally, suicidality (*OR* = 0.78, 95% CI: 0.61–0.99; $p = 0.0436$).

Comparison of PM group to multiple-type PA + SA group. Of further relevance to evaluating its predictive potency, the PM group had similar odds to the PA + SA group on 74% (20 of 27) of indicators and significantly higher odds on five indicators (substance abuse disorder [SAD], GAD, depression, and ASD). The PM group had significantly lower odds on only two indicators compared with the PA + SA group (sexualized behaviors, PTSD).

Incremental Contribution of PM to the Clinical Profiles of Physically or Sexually Maltreated Youth

CBCL subscale & PTSD-RI total scale scores. Compared with the PA group, the PM + PA group had significantly higher CBCL-Int. scores (Achenbach & Rescorla, 2004), estimated difference = 2.66, *SE* = 0.62; $p < .0001$, and PTSD-RI scores (Steinberg et al., 2004), estimated difference = 2.45, *SE* = 0.81; $p = 0.0025$. In contrast, the two groups reported similar CBCL-Ext. scores (Achenbach & Rescorla, 2004), *M* = 64.3 vs. 63.8, respectively. Further, compared with the SA group, the PM + SA group had significantly higher scores on the CBCL-Ext., estimated difference = 2.62, *SE* = 0.86; $p = 0.0024$, and CBCL-Int. composite scales, estimated difference = 2.14, *SE* = 0.84; $p = 0.0107$, as well as marginally higher scores on the PTSD-RI, estimated difference = 2.15, *SE* = 1.09; $p = 0.0495$ (see Table 1 for group comparison details).

Indicators of severity and clinical evaluation. Compared with the SA group, the PM + SA group had significantly higher

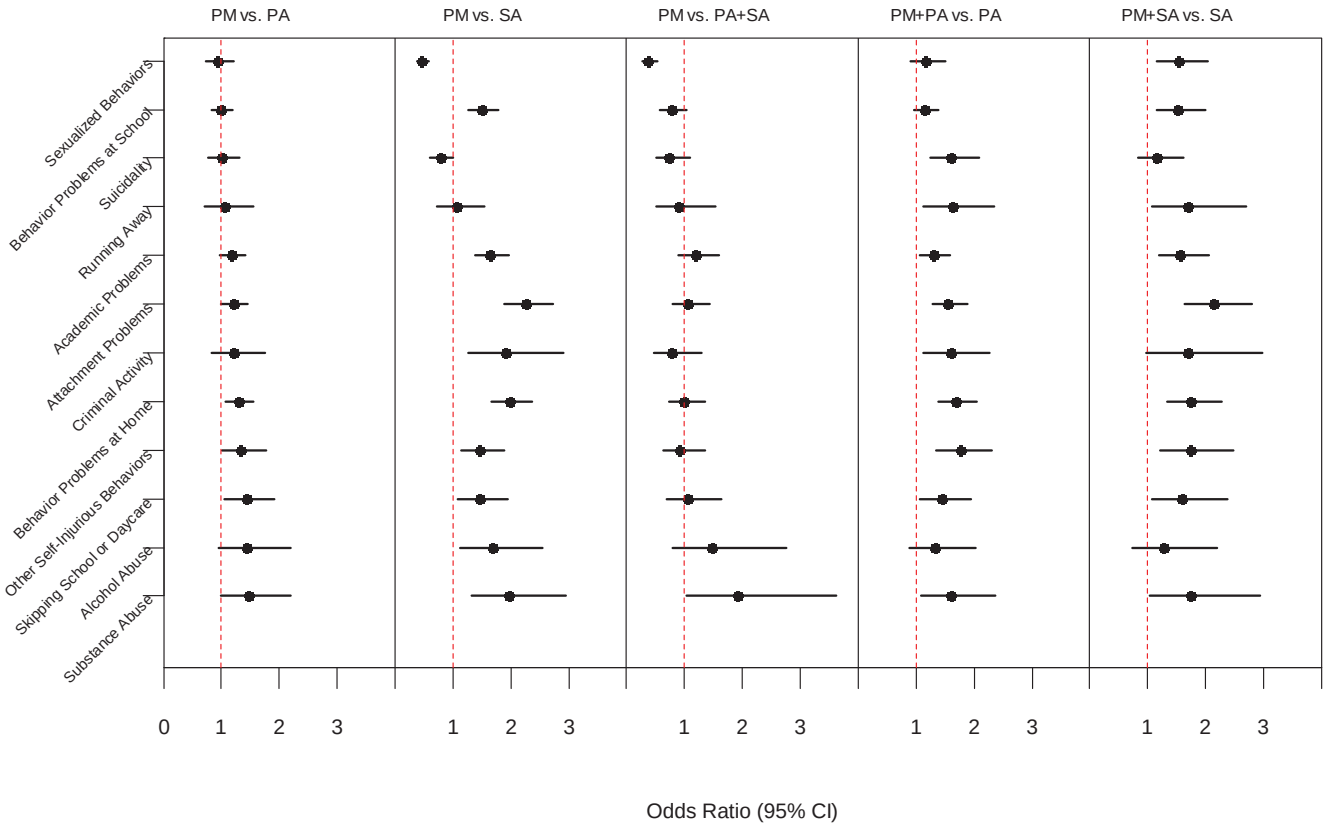

Figure 1. Estimated *OR* with 95% *OR* for indicators of severity (SA = sexual abuse; PA = physical abuse; PM = psychological maltreatment). The dash line represents an *OR* of 1.

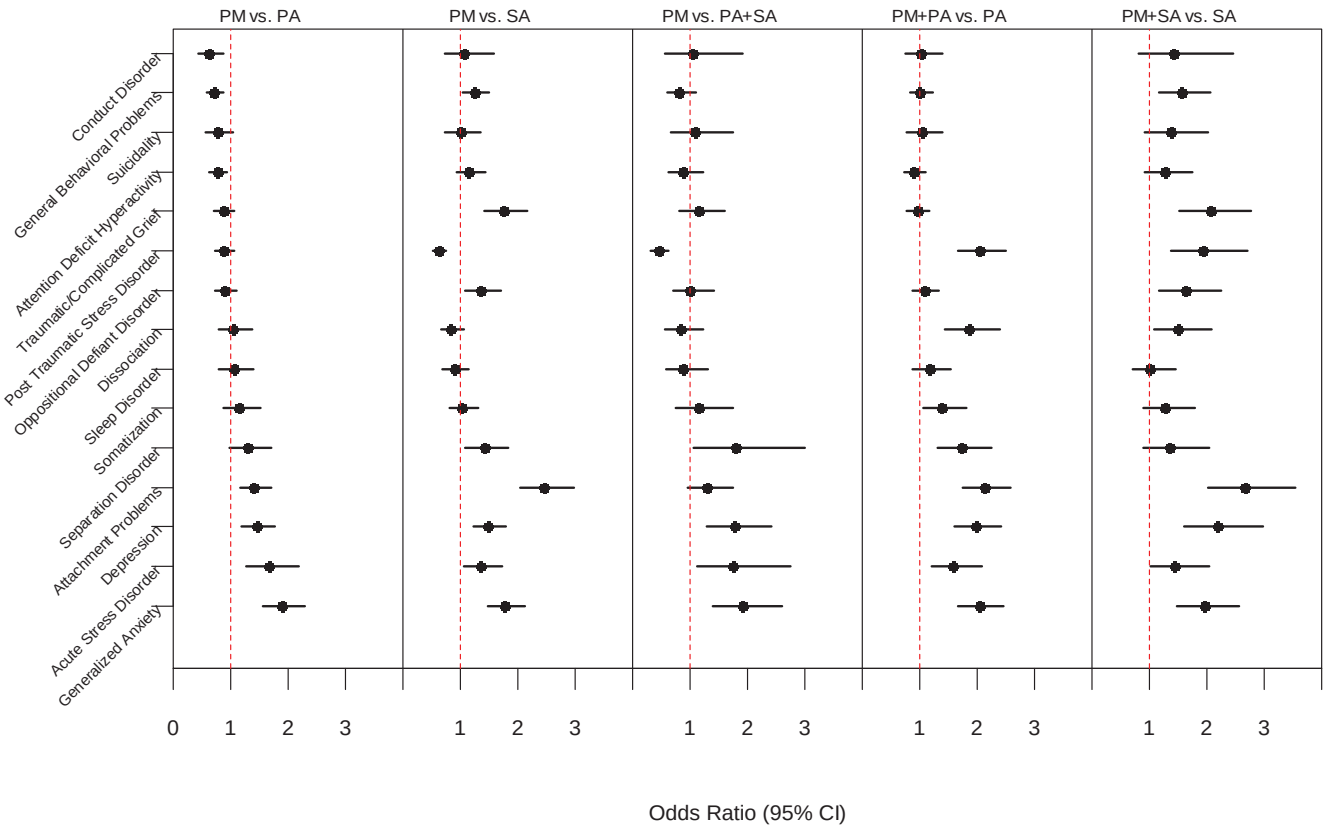

Figure 2. Estimated *OR* with 95% *OR* for clinical evaluation (SA = sexual abuse; PA = physical abuse; PM = psychological maltreatment). The dash line represents an *OR* of 1.

odds on the majority (18 of 27; 67%) of indicators (see Figures 1 & 2). Similarly, compared with the PA group, the PM + PA group had significantly higher odds on the majority (17 of 27; 63%) of indicators.

Model Covariates

The results presented above were from the models adjusted for gender and age at baseline, and these model covariates were significantly associated with some of the measures and indicators of interest.

Gender. Male status was associated with significantly higher mean scores on the CBCL-Ext. subscale (Achenbach & Rescorla, 2004), as well as a significantly higher frequency (30%; 8 of 27) of respondent and clinician-rated indicators. Female status was associated with significantly higher PTSD-RI scores (Steinberg et al., 2004) and with a significantly higher frequency (7 of 27; 26%) of rated indicators (See Tables 1 & 2).

Age at baseline. Older age (measured at intake) was positively associated with both CBCL-Ext. and CBCL-Int. subscale scores (Achenbach & Rescorla, 2004), and with a higher frequency of most (70%; 19 of 27) indicators. Younger age was significantly associated with 26% (7 of 27) of rated indicators.

Discussion

Using a large national sample of clinic-referred youth, the present study casts light on the potential effects of PM (i.e., emotional abuse and/or emotional neglect) on child and adolescent traumatic stress and associated problems in child mental health, behavior, and functioning. Our findings strongly support the hypotheses that PM in childhood not only augments, but also independently contributes to, statistical risk for negative youth outcomes to an extent comparable to statistical risks imparted by exposure to physical abuse (PA), sexual abuse (SA), or their combination (PA + SA).

The occurrence of PM was associated with a broad range of clinical impairment types, exerting predictive effects of comparable or greater magnitude or frequency than the predictive effects of PA and SA. In addition, the co-occurrence of PM with PA (PM + PA) or SA (PM + SA) was associated with a greater magnitude or frequency of the majority of study outcomes compared with those associated with PA or SA alone. Further, the occurrence of PM was found to be an equivalent or significantly greater predictor of 27 of 30 negative outcomes compared with the co-occurrence of physical and sexual abuse (PA + SA). PM was thus associated with a clinical profile that overlapped with, but was distinct from, the profiles observed in the PA, SA, and PA + SA comparison groups.

Adding weight to these findings is evidence that PM is the most prevalent form of maltreatment in the NCTSN CDS (Layne et al., 2014). A history of PM exposure was identified in the majority (62%) of more than 5,000 maltreatment cases examined in this study, with nearly one quarter (24%) of maltreatment cases comprised exclusively of PM. Although cross-sectional, these findings

point to the role that PM may play as a formidable form of childhood trauma in its own right, and strongly suggest that PM should be an integral component of ongoing efforts to understand, assess, and address the nature and sequelae of maltreatment in children and adolescents.

Impact of Psychological Maltreatment on PTSD

The PM group exhibited symptom frequencies on the PTSD-RI equivalent to those observed in the PA and SA groups. This finding is especially noteworthy given the exclusion of PM as a Criterion A event for PTSD in *DSM-5* and its prior editions (American Psychiatric Association, 2013). In contrast, the lower frequency of clinician-rated PTSD diagnosis in the PM versus SA groups may reflect, at least in part, a methodological artifact and clinical practice parameter: Clinicians may have refrained from assigning a PTSD diagnosis to the PM group—even in the presence of equivalent PTSD-RI symptom severity—precisely because the DSM does not recognize PM as a threshold stressor for PTSD. Nevertheless, equivalent PTSD-RI scores across PM, SA, and PA groups, coupled with the finding that the PM group was as likely as the PA group to receive a clinician rating of PTSD, provides support for both the inclusion of PM as a qualifying stressor for PTSD as well as healthy skepticism concerning the diagnostic utility of excluding PM from PTSD Criterion A (Van Hooff, McFarlane, Bauer, Abraham, & Barnes, 2009).

Impact of Psychological Maltreatment on Associated Clinical Indicators

Findings revealed a robust association between PM and the majority of clinician-rated diagnostic and risk indicators assessed. Compared with the SA, PA, and SA + PA groups, the PM group exhibited equivalent or higher frequency scores on the great majority of study indicators. Although the PM group exhibited slightly lower frequencies on a small number of outcomes compared with either the SA (e.g., sexualized behaviors) or PA (e.g., CD) groups, the PM group was never associated with the lowest odds ratios on any of the 27 indicators examined. In sum, the predictive potency of PM appears to be at least on par with physical or sexual abuse across a broad range of adverse outcomes. These findings lend support to the recent report by the AAP highlighting the perniciousness of this form of maltreatment (Hibbard et al., 2012).

Some evidence concerning the potentially differential (unique) effects of PM emerged in the finding that PM was the strongest and most consistent predictor of internalizing problems (e.g., depression, GAD, SAD, attachment problems). PM was also the strongest predictor of substance abuse—raising the question as to whether substance abuse may serve as an associated coping mechanism and "cascading" secondary outcome (see Layne et al., 2014). These findings are consistent with earlier research linking PM to a range of internalizing symptoms, relational insecurity, and negative self-perceptions (e.g., Trickett, Kim, & Prindle, 2011). With respect to the prediction of externalizing problems (e.g., behavioral problems, self-injury, criminal activity), PM exhibited a strong association comparable to that of PA and greater than that of SA. This finding suggests that PM, PA, and their co-occurrence (PM + PA) may be potent risk factors for eliciting or reinforcing externalizing behavior—a proposition consistent with prior research linking maltreatment to reactive aggression (Ford, Fraleigh, & Connor, 2010).

Exacerbating Effect of Psychological Maltreatment for Other Maltreatment Groups

Consistent with prior studies suggesting that PM may potentiate the detrimental effects of SA or PA, the co-occurrence of PM with SA or PA was associated with higher PTSD symptoms, CBCL-Int., and CBCL-Ext. behavior problem scores compared with the occurrence of SA or PA alone. The co-occurrence of PM with PA or SA also significantly increased the odds ratios for a number of clinician-rated indicators including PTSD, ASD, dissociative symptoms, attachment problems, depression, and GAD. These findings add to a growing body of research demonstrating that exposure to multiple forms of trauma (Cloitre et al., 2009; Higgins, 2004) is associated with an exacerbation of psychosocial impairment.

In contrast, although the co-occurrence of PM with either PA (PM + PA) or SA (PM + SA) generally increased the risk for adverse outcomes compared with the predictive effects of PA or SA alone, the co-occurrence of PA with SA (PA + SA) rarely predicted greater outcome severity. Indeed, for a number of study indicators, the predictive effect of PA + SA was significantly lower than that of PM alone. As gauged by its incremental predictive potency, PM may represent a disproportionately more potent predictor, and candidate causal (i.e., traumagenic) contributor, to the risk for a broad array of trauma-related adverse outcomes in childhood and adolescence as compared with other more extensively studied forms of maltreatment, including PA and SA. These findings suggest that, in evaluating risk for PTSD and other adverse behavioral and psychosocial outcomes, the accumulation of multiple maltreatment types may not follow a simple equally weighted additive pattern (i.e., functional interchangeability in the relative potencies and causal pathways of different trauma types across outcomes). Consistent with the role of a vulnerability factor (Layne et al., 2009), the co-occurrence of psychological maltreatment in this study was associated with a significant increase in the prevalence and severity of a range of internalizing and externalizing problems for children exposed to either SA or PA.

This additive effect was unique to PM: the co-occurrence of PM with another type of maltreatment (PM + SA or PM + PA) was associated with significantly more severe (as measured by CBCL Internalizing and Externalizing subscale scores) and far-ranging (as measured by the wide array of clinical indices assessed) negative outcomes than when SA and PA co-occurred without PM (SA + PA). In fact, the co-occurrence of SA and PA appeared to be necessary to produce an equivalent predictive effect on several study indicators (e.g., behavioral problems at school, self-attachment problems, self-injurious behaviors) compared with PM alone. Investigating the comparative potency and potentially unique pathways by which PM contributes (both in its occurrence, as well as its co-occurrence with PA and SA) to adverse outcomes typically attributed to PA and SA, is a promising avenue for future research (see also Kisiel et al., 2014; Layne et al., 2014; Pynoos et al., 2014).

Study Strengths and Limitations

Study strengths include the size, national scope, and demographic diversity of the sample. The present study constitutes one of the largest empirical studies on the comparative predictive potencies of various forms of child maltreatment ever conducted—a study for which the NCTSN CDS is uniquely suited to carry out. The study design nevertheless carries important limitations. First, because the CDS is a quality improvement initiative consisting of a large sample of youth referred for trauma treatment services, it is neither probability-based nor nationally representative, but rather a purposive sample of youth served by NCTSN centers. Our results thus most clearly generalize to trauma-exposed, treatment-seeking U.S. youth populations. Second, we operationally defined each child's maltreatment history in terms of his or her lifetime history of exposure to three primary forms of maltreatment captured in the CDS (PM, SA, PA) and their combinations that were most conducive to testing our two study hypotheses. We did not examine other facets of maltreatment (e.g., duration, age of onset, developmental timing of exposure) that may intersect with one or more of these maltreatment types to influence child outcomes (see Pynoos et al., 2014). Third, the study design utilized linear mixed-effects regression using discrete groups (PM, PA, SA, PM + PA, etc.) and cross-sectional data, and did not involve tests of interaction (i.e., moderated/vulnerability effects). Fourth, we did not account for the contributions of other forms of interpersonal (e.g., gross neglect, domestic, school or community violence) or impersonal (e.g., serious injury/accident) trauma measured by the CDS that may precede or occur in conjunction with or subsequent to child maltreatment. We plan to pursue these questions in future studies designed to unpack the elements of risk factor caravans and their influences on maltreated youth (Layne et al., 2014). Our results nevertheless clearly underscore the risks associated with maltreatment-related polyvictimization, especially elevated risk profiles and wide-ranging negative outcomes predicted by lifetime exposure to PM.

Future Directions and Implications for Child Mental Health Services, Education, and Policy

Findings of this study carry important implications for public policy and the development, adaptation, and implementation of child trauma interventions. First, given its predictive potency and widespread prevalence, efforts to increase recognition of PM as a potentially formidable type of maltreatment in its own right should be at the forefront of mental health and social service training efforts, including incorporation of education on PM into graduate training curricula and continuing education of child service professionals (Courtois & Gold, 2009). This need is especially apparent in the child welfare system considering the low rates at which PM is currently detected. Enhancement of training initiatives for protective services personnel focused on screening and assessment of PM, as well as linking children to appropriate services, is critical. In tandem, mental health outreach, consumer resource development and public awareness initiatives are needed to achieve more widespread understanding of the detrimental consequences of PM for children and adolescents.

Second, psychometrically sound, clinically useful instruments are needed to help providers identify PM, categorize and appreciate various forms of emotional abuse and emotional neglect, and assess their associated effects on a range of adverse youth outcomes. Third, effective, theoretically grounded interventions for the sizable subpopulation of traumatized youth exposed to PM are clearly needed. Of particular concern, whereas NCTSN sites have produced or adapted over three dozen empirically supported treatments for child trauma, few directly target psychological maltreatment or its subtypes (e.g., emotional abuse, emotional neglect), and no intervention has been developed to focus specifically on this widely prevalent form of trauma exposure. One partial exception is Attachment, Self-Regulation and Competency (ARC: Kinniburgh, Blaustein, Spinazzola & van der Kolk, 2005), which embeds a therapeutic focus on the effects of and response to psychological maltreatment within a "complex trauma" (Spinazzola et al., 2005; Spinazzola et al., 2013) paradigm. Nevertheless, the extent to which prevailing child trauma treatment models are applicable to, and sufficiently address the needs of, psychologically maltreated youth remains an open question. Likewise, the degree to which the extant evidence base on treatment outcome generalizes to this subpopulation of maltreated youth is unclear. Future research should seek to ascertain whether existing models sufficiently address, or can be adapted to accommodate, the needs of psychologically maltreated children and adolescents; or alternatively, whether new models or intervention components are required.

Finally, greater attention should be dedicated toward understanding the complex manner in which co-occurring forms of childhood trauma may intersect to influence traumatic stress reactions, attachment and self-image problems, affective and physiological dysregulation, risk behaviors, and functional impairment across development (D'Andrea et al., 2012). Appropriately constructed guiding theory, assessment tools, interventions, and clinical training methods are needed to support accurate risk screening and case identification, effective intervention, workforce development, and public policy. If we are to engender healing of the full spectrum of wounds inflicted by childhood trauma—both the visible and the unseen—such efforts must be guided by a clear appreciation for the variability in occurrence, intersection, etiology, developmental context, clinical course, and causal consequences of all forms of maltreatment.

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