



Risk and protective factors for child neglect during early childhood: A cross-study comparison

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ABSTRACT

The present analysis relies upon data from three separate longitudinal studies to identify risk and protective factors associated with subsequent neglect during early childhood. All three studies (Fragile Families and Child Wellbeing [FFCW]; Healthy Families New York [HFNY]; Illinois Families Study-Child Wellbeing [IFS]) involve probabilistic samples or subsamples of low-income families with young children. Multivariate logistic regressions predicting official reports of investigated neglect allegations and a dichotomous indicator of neglect from the Parent–child Conflict Tactics Scale (CTS-PC) were conducted separately for each study, using common sets of predictors derived from baseline or initial survey waves. Across the three studies, consistencies emerged with respect to the predictors of both neglect outcomes. Specifically, consistencies emerged related to indicators of economic resources and hardships, parent well-being, and parenting. Understanding the predictors of child neglect is of critical importance to the development of child maltreatment prevention strategies since a clearer understanding of the risk and protective factors associated with neglect would enable more effectively targeted and tailored interventions.

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1. Introduction

Child neglect has repeatedly been identified as the most prevalent form of child maltreatment. It is the most commonly alleged reason for reports to child protection systems (CPS), (Shlonsky, 2007; U.S. Department of Health and Human Services, 2010; Wulczyn, Hislop, & Jones Harden, 2002), and is the predominant category of maltreatment in the National Incidence Studies (NIS), which are designed to estimate the extent of child maltreatment in the U.S. regardless of whether it is reported to CPS. In the most recent NIS-4, child neglect comprised 61% of identified maltreatment according to the NIS harm standard, and 77% of maltreatment according to the NIS endangerment standard (Sedlak et al., 2010). According to official reports of maltreatment, younger children are at greater for child neglect victimization than older children, with infants representing the highest risk group (U.S. Department of Health and Human Services, 2010). Severe child neglect, including child fatalities from neglect, is also more common among younger children (Block, 2002; U.S. Department of Health and Human Services, 2010).

Despite these statistics, little attention has been paid to identifying the risk and protective factors associated with child neglect, particularly

during infancy and early childhood. Of particular need are studies that involve community- or population-based probability samples (as opposed to clinical samples), prospective research designs that afford a true assessment of risk, and multiple measures of child neglect (e.g., official reports and self reported measures).

The present analysis relies upon data from three separate longitudinal studies of predominantly low-income families with young children to identify the predictors of child neglect during early childhood. The research questions addressed include (1) what types of factors predict involvement with child protective services (CPS) for reasons of neglect within each study?; (2) do similar factors within studies predict a validated (parental) self-report measure of child neglect?; and, (3) to what extent are there consistencies across studies in the predictors of both neglect outcomes? To the extent that common predictors emerge across three separate studies with differences in regional focus, time frame, sample demographics, and other elements of study design, our understanding of the circumstances in early childhood that elevate (or reduce) the risk of child neglect will be greatly enhanced.

2. Background

Research on the correlates of child maltreatment in infancy and early childhood has shown a number of factors to be associated with abuse and neglect, including maternal age (Lee & Goerge, 1999; Slack,

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Holl, McDaniel, Yoo, & Bolger, 2004; Strathearn, Mamun, Najman, & O'Callaghan, 2009), family size and structure (Brayden, Altemeier, Tucker, Dietrich, & Vietze, 1992; Epstein, 2002; Kotch et al., 1995; Kotch, Browne, Dufort, Winsor, & Catellier, 1999; Lee & Goerge, 1999; Windham, Rosenberg, Fuddy, McFarlane, Sia, & Duggan, 2004; Wu et al., 2004), parental education (Brayden et al., 1992; Hunter, Kilstrom, Kraybill, & Loda, 1978; Kotch et al., 1995, 1999; Slack et al., 2004; Strathearn et al., 2009; Wu et al., 2004), income and poverty (Lee & Goerge, 1999); public benefit receipt (Kotch et al., 1995, 1997; Wu et al., 2004), maternal employment (Slack et al., 2004); maternal mental health and substance abuse (Brayden et al., 1992; Christensen, Brayden, Dietrich, McLaughlin, & Sherrod, 1994; Epstein, 2002; Jaude & Mackey-Bilaver, 2008; Kotch et al., 1995, 1999; Strathearn et al., 2009; Windham et al., 2004; Wu et al., 2004), social support (Brayden et al., 1992; Dukewich, Borkowski & Whitman, 1996; Hunter et al., 1978; Kotch et al., 1997, 1999); domestic violence (McGuigan & Pratt, 2001; Windham et al., 2004), parenting efficacy or stress (Brayden et al., 1992; Dukewich, Borkowski, & Whitman, 1996; Slack et al., 2004), and child health and behaviors (Brayden et al., 1992; Dukewich, Borkowski & Whitman, 1996; Hunter et al., 1978; Kotch et al., 1999; Wu et al., 2004). Several of these referenced studies involve prospective research designs with community- or population-based samples, as well as neglect-specific outcome measures (Brayden et al., 1992; Christensen et al., 1994; Epstein, 2002; Jaude & Mackey-Bilaver, 2008; Kotch et al., 1995, 1999; McGuigan & Pratt, 2001; Slack et al., 2004; Wu et al., 2004). However, the specific measures employed across studies, coupled with other differences in study design, make it difficult to compare findings in a systematic way.

A much larger literature on the correlates of child maltreatment, and neglect specifically, relies upon cross-sectional designs, which does not afford a true assessment of “risk” vis-à-vis neglect. Two critical and related conditions of establishing that something operates as a risk (or protective) factor is that it is measured within a sample for which the outcome has not yet been observed, and that it precedes the outcome of interest (Kraemer, Kazdin, Offord, Kessler, Jensen & Kupfer, 1997). This is not to equate “risk” with “cause.” However, the identification of factors that are associated with an elevated (or reduced) risk of some outcome—in this case child neglect—serves to highlight potential targets of interventions with respect to the population served as well as the nature of services designed. This exercise is intended to move the prevention field forward in its understanding of risk as it relates to child neglect in early childhood.

3. Methods

Central to this exercise was the identification of a reasonably common set of measures across multiple studies that are well suited for understanding the risk and protective factors related to child neglect. These studies (Fragile Families and Child Wellbeing [FFCW]; Healthy Families New York [HFNY]; and Illinois Families Study-Child Wellbeing [IFS-CWB]) all involve probabilistic samples or subsamples of low-income families with young children. All three studies are able to distinguish neglect from other forms of maltreatment, and all incorporate more than one measure of child neglect. Importantly, none of the samples were selected on the basis of past or current child maltreatment or CPS intervention, and all were followed for multiple years to identify situations of child neglect occurring subsequent to sample selection. Still, the studies differ on a number of design and sample characteristics. However, the main objective of this exercise is to understand whether common predictors emerge for different types of neglect outcomes across studies, *despite* these differences. Variation in study design and sample selection strategies is described below.

3.1. Study designs and samples

The FFCW study involves a population-based, longitudinal birth cohort of 4898 children born between 1998 and 2000 in large U.S. cities (see Reichman, Teitler, Garfinkel, & McLanahan, 2001 for a complete description of the sample and design). The study oversampled non-marital births, resulting in a greater representation of low-income families. The sample for the present analysis was further limited to the subgroup ($N = 3033$) of mothers who reported incomes at baseline (focal child's birth) of less than 200% of the federal poverty level, to ensure a closer approximation to the other study samples used in the present exercise. FFCW researchers interviewed families in person at the time of the focal child's birth and by telephone when the child was approximately 1 (response rate = 89% of the initial sample), 3 (response rate = 86%), and 5 (response rate = 85%) years of age. Following each of the latter two interviews, families were invited to participate in an in-home assessment of multiple domains of parenting, the home environment, mother-child interactions, and child wellbeing. Parents who refused an in-home visit were asked to complete the questionnaire portion of the in-home module by telephone. Over three-quarters of the sample who completed the core interview for age 3 or 5 participated in this assessment for that wave (nearly 80% of whom completed an in-home vs. a telephone assessment at each wave). Of the 3033 sample members with incomes less than 200% of the federal poverty level, 60% (1820) participated in both the age 3 and 5 assessments, and answered questions related to child neglect, the key outcomes for the present analysis.

The Healthy Families New York (HFNY) study is a longitudinal randomized controlled trial of a nationally-based home-visiting program model that strives to promote safe and healthy families by providing home visiting services to new or expectant parents who are deemed to be at risk of abusing or neglecting their children (DuMont et al., 2008). Recruitment for the study was conducted between March 2000 and August 2001 at three sites with long-standing HFNY programs. Following the sample selection period, baseline interviews were conducted with 1173 women who met assessment criteria for HFNY and were randomly assigned to either an intervention group that was offered HFNY services ($n = 579$) or a control group that was given information and referrals to other appropriate services ($n = 594$). The sample of mothers who completed baseline interviews were re-interviewed in their homes at the time of the target child's first, second, and seventh birthdays. Study retention rates were high, with 90% of the women re-interviewed at Year 1, 85% reinterviewed at Year 2, and 80% at Year 7 ($n = 942$). For the present analysis, the sample was restricted to the control group (since the intervention group received services intended to influence child maltreatment outcomes) as well as to sample members who were retained through Year 7 and answered questions related to child neglect ($N = 421$).

The Illinois Families Study: Child Wellbeing supplement (IFS-CWB) is a longitudinal panel study of TANF-recipient families with young children (Slack et al., 2004). Respondents for the annual in-person surveys were selected from the 1998 TANF enrollment files of nine Illinois counties, which together represented over 75% of the Illinois TANF caseload. The sampling frame was stratified by region to ensure sufficient numbers of respondents from smaller, less urban counties (see Lewis, Shook, Stevens, Kleppner, Lewis & Riger, 2000; Slack et al., 2004 for more detail on study design). The baseline response rate for the larger study in which the IFS-CWB supplement was situated (i.e., 1999–2000) was 72% ($N = 1363$; Lewis et al., 2000). All respondents from the baseline IFS survey who had at least one child 3 years of age or younger at the point of their baseline survey ($N = 583$) were included in the IFS-CWB. This group of respondents was administered annual surveys in 2001 through 2004 which were designed to gather more in-depth information on the health and well-being of the youngest child in the home (the “focal child”), as well as various child neglect risk factors. The response rate for Wave 1 of the IFS-CWB was 95% ($N = 553$);

381 families participated through the final survey wave in 2004 and answered questions related to child neglect, for an IFS-CWB retention rate of 66%. Focal children ranged from birth to 5 years of age at the time of the Wave 1 IFS-CWB interview.

3.2. Measures

CPS Neglect—Official records of investigated child maltreatment reports were collected for the HFNY and IFS-CWB studies. These reports were cataloged by date and maltreatment allegation, allowing for the identification of neglect-specific reports that occurred following the baseline interviews with families. For both of these studies, neglect reports were included regardless of whether the report was related to a focal child or to other children in the home. The FFCW study did not have access to official records of CPS involvement, but sample members who participated in the age 5 in-home assessment were asked a series of questions about CPS contacts related to any of the children in the home. Respondents were also asked about the most recent CPS contact since the birth of the focal child and about the nature of the concerns reported to CPS (i.e., physical abuse, neglect, sexual abuse, or other concerns) with regard to that event.

Across the studies, the incidence of investigated neglect reports was 5% (FFCW), 58% (HFNY), and 14% (IFS-CWB). The relatively low rate of CPS involvement in the FFCW may relate to the fact that this outcome was self-reported by respondents, and thus subject to both recall and social desirability bias. Additionally, some respondents may not have been aware of the specific maltreatment allegations associated with their families. All of these potential biases likely contribute to an underestimate of neglect-related CPS involvement in the FFCW study. The HFNY study's relatively high rate of CPS involvement in the control group likely stems from the fact that families are referred to the HFNY program only if they meet a certain number of risk factors for maltreatment, whereas FFCW's and IFS-CWB's samples are not determined on the basis of maltreatment risk. There are also differences across studies in the follow-up periods, ranging from approximately 4 years in the IFS-CWB to approximately 7 years in the HFNY study.

Parent–child Conflict Tactics Scale (CTSPC), Neglect Subscale—the CTSPC is a widely used and validated measure of physical and psychological child maltreatment and child neglect, as well as nonviolent discipline, that is based on self reports of parental behaviors (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). In the present study, we focus on only the neglect subscale of the CTSPC, which is comprised of five items tapping caregiver failure to provide for the basic developmental needs of a child. These items include whether a parent had to leave a child home alone, even when she¹ thought some adult should be with the child; whether a parent got so caught up with her own problems that she was not able to show or tell the child that she loved him/her; whether a parent became unable to make sure a child got the food he/she needed; whether a parent became unable to make sure the child got to a doctor or hospital when he/she needed it; and whether the parent got so drunk or high that she had a problem taking care of a child. Response options represent categories of frequencies for each behavior within the past year, and whether the behavior has occurred but prior to the past year, or never occurred. In this analysis, the CTSPC neglect subscale was dichotomized to reflect the occurrence of any of the five behaviors one or more times over the past year. The resulting incidence of CTS neglect according to this specification was 13% in FFCW, 17% in HFNY, and 33% in IFS-CWB. The relatively lower incidence rates in the FFCW and HFNY could reflect the fact that both of these studies focused on birth cohorts, and the IFS-CWB focused on children under the age of five at baseline.

Statistically significant correlations between the CPS neglect and CTS neglect indicators were weak in the FFCW and IFS-CWB studies²; there was not a statistically significant correlation between the neglect outcomes for control group members in the HFNY study.

Predictors—as a first step in the analysis, researchers representing each of the three studies identified several domains of child neglect predictors within which to identify measures in common. These domains included demographic characteristics, economic characteristics (resources as well as indicators of hardship), markers of parent and child well-being, and parenting behaviors. The researchers began by developing a list of measures that have been used in prior study-specific analyses of child maltreatment outcomes. As a further guide for considering specific measurement constructs, the researchers relied upon a recently completed systematic review of the literature on neglect risk and protective factors (Slack, Berger, Yang, & Gjertson, 2010), and a recently published meta-analysis on risk factors for child maltreatment (Stith et al., 2009). Once a set of common measurement constructs was identified, the researchers cataloged specific measurement properties for each construct and compared these elements across the studies. In many instances, the exact measures were used across at least two of the three studies, with the third study having a reasonably close approximation. Where measures differed (e.g., each study had a different measure of depression) scores were standardized to achieve a consistent metric for comparing results across studies.

With only a few exceptions, all measures considered potential predictors of child neglect were derived from a baseline or early follow-up survey (e.g., 12-months after baseline). Table 1 presents the descriptive statistics for the final set of common measures derived across the studies. Demographic factors included the sex of the focal child, the age of the primary caregiver, marital and cohabitation status of the primary caregiver, race and ethnicity of the primary caregiver, whether the primary caregiver had a high school degree or general equivalency degree (GED) as of the baseline interview, and the number of children and number of adults living in the home.

Economic resources included the employment status of the primary caregiver, whether the family was receiving Temporary Assistance for Needy Families (TANF) or food stamps, whether the primary caregiver was receiving Supplemental Security Income (SSI) for herself or a child, whether the family received a housing subsidy or lived in public housing, whether the family received benefits from the Women, Infants, and Children (WIC) Program, whether recent financial help from family members was received, whether the family recently used a food pantry, and whether they received Medicaid benefits. Economic hardships included whether the family had been unable to see a doctor when needed due to cost, had difficulty paying rent, had a utility shut-off, or whether the primary caregiver reported cutting the size or frequency of her meals.

Parent and child wellbeing indicators included having a (focal) child with a chronic health condition, low birth weight of the focal child, caregiver depression, caregiver chronic health problem, self-efficacy (Mastery Scale; Pearlin & Schooler, 1978), perceived availability of instrumental support from family, physical or emotional domestic violence toward the primary caregiver, heavy alcohol consumption by the caregiver, and illicit drug use by the caregiver. A limited set of common parenting measures were identified across studies. All three studies had an indicator of whether corporal punishment (specifically, spanking) was used with the focal child, involvement of caregiver in the child's activities (e.g., items such as “doing something special that my child enjoys,” “playing sports or games with my child”), and measures of parenting stress (e.g., items such as “taking care of a child is much more work than pleasure,” “I feel trapped by my responsibility as a parent”). The majority of predictors were operationalized as dichotomous variables in favor of greater consistency across studies. Four scale

¹ The vast majority of respondents across studies are female, and CTSPC behaviors therefore primarily reflect maternal self-reports.

² Correlations between CPS neglect and CTS neglect were .04 ($p < .05$) in FFCW, .02 (NS) in HFNY, and .15 ($p < .05$) in IFS-CWB.

Table 1
Descriptive characteristics of the three study samples.

Variables	FFCW (n = 1820)		HFNY (n = 421)		IFS-CWB (n = 381)	
	Mean/%	SD	Mean/%	SD	Mean/%	SD
<i>Demographic factors</i>						
Female focal child	47.53%		49.41%		51.18%	
Caregiver's age	23.96	5.57	22.74	5.47	28.31	6.30
Married	10.88%		11.40%		11.29%	
Cohabitation	37.97%		24.70%		8.92%	
Single	51.10%		63.90%		79.89%	
High school degree	54.45%		52.02%		73.75%	
# of kids	2.57	1.42	1.25	1.24	2.89	1.33
# of adults	2.27	1.06	2.24	1.30	1.08	.29
Black	58.40%		49.88%		78.22%	
White	11.43%		35.39%		14.17%	
Hispanic	27.36%		14.73%		5.77%	
Other race	1.92%		n/a		1.84%	
<i>Economic factors</i>						
Working	71.70%		26.84%		75.33%	
TANF or food stamp	51.04%		44.66%		78.22%	
SSI	9.23%		15.44%		7.61%	
Housing subsidy	19.12%		16.63%		17.06%	
WIC	81.37%		77.91%		48.29%	
Financial assistance from family	27.20%		74.35%		31.50%	
Food pantry	9.06%		10.21%		15.22%	
Medicaid	77.25%		78.00%		65.88%	
Couldn't see a doctor	5.55%		11.00%		9.45%	
Difficulty paying rent	14.01%		17.00%		38.06%	
Residence <1 year	30.00%		55.58%		29.92%	
Gas/electronic turned off	5.99%		9.03%		3.94%	
Caregiver cut meals	5.60%		10.00%		13.39%	
<i>Parent and child wellbeing factors</i>						
Child health problem	2.58%		9.50%		6.82%	
Low birth weight	17.53%		10.93%		13.91%	
Depression ¹	1.03	2.25	15.67	10.71	16.99	7.20
Caregiver health problem	9.73%		16.63%		16.27%	
Self efficacy ¹	3.33	.65	2.86	.50	3.10	.65
People to loan you money	86.76%		46.32%		92.91%	
Severe physical domestic violence	10.93%		11.64%		7.35%	
Emotional domestic violence	14.89%		57.48%		9.97%	
Heavy drinking	6.43%		13.78%		6.56%	
Drug use	1.92%		16.86%		3.15%	
<i>Parenting factors</i>						
Spanking	27.69%		13.77%		23.88%	
Involvement with child's activities ¹	3.60	.56	45.07	4.67	3.15	.78
Parenting stress ¹	2.23	.70	1.89	.53	2.18	1.07
<i>Child maltreatment outcomes</i>						
Any CPS	14.17%		58.19%		22.9%	
CPS neglect	5.11%		57.96%		14.17%	
CTS neglect	13.35%		16.86%		32.55%	

¹ Variable ranges differed across studies.

measures (depression, self efficacy, involvement in child's activities, and parenting stress) were standardized as z-scores because different measures were used, or different response options were provided for the same measure across studies. Again, this common metric was used to ease comparisons across studies. The means and standard deviations for these variables are presented in their original metrics in Table 1, but standardized scores were used in the bivariate and multivariate analyses.

3.3. Analytic strategy

The neglect outcomes used in the present analysis involved measurements taken over a several year follow-up period which averaged 5.5 years across the studies. At least one of the neglect outcomes in all studies was based on self-reported information, and

could be obtained only from respondents who remained in the study over time. Thus, the final sample for the present analyses relied upon the subgroup of respondents who participated in the study by the final survey wave and provided answers to self-reported child neglect questions. Each study conducted difference of means tests (not presented) to determine whether and to what extent these final samples differed from the original baseline samples.

Both IFS-CWB and HFNY had few differences in baseline characteristics between those included in the analytic group and those excluded. Differences in the IFS-CWB were limited to demographic characteristics. The final IFS-CWB analysis sample (N = 381) was less likely to be married and more likely to be single, living with fewer other adults, and more likely to identify their race as black than the study leavers (N = 162). Those respondents in the final HFNY analysis sample of control group participants (N = 421) were more likely to have given birth to a baby with a low birth weight, less likely to report being unable to see a doctor when a family member needed medical care, more likely to identify their race as black and less likely to identify their ethnicity as Hispanic or Latino than those excluded from the final analysis sample (N = 168). More differences emerged between included and excluded sample members in the FFCW; however, the larger sample size relative to the IFS-CWB and the HFNY also heightens statistical power for detecting group differences. The vast majority of differences observed in the FFCW were of a magnitude of only a few percentage points. More substantive differences included a greater likelihood of receiving benefits from the Women, Infants, and Children (WIC) Program, a larger percentage of respondents who identified themselves as black, and a lower percentage who identified themselves as Hispanic or Latino among respondents in the final analysis sample (N = 1820) vs. excluded sample members (N = 1213).³

The remaining analyses involved a series of bivariate and multivariate logistic regressions predicting each of the neglect outcomes across studies. As a first step, unadjusted odds ratios were estimated for each predictor, and for each neglect outcome within studies (not presented). These estimates were repeated adjusting for only demographic characteristics (see Tables 2a and 2b). Since each study targeted populations that differed on several demographic characteristics, controlling for only these factors afforded more comparable estimates of the associations between each of the risk or protective factors and the two neglect outcomes. Using meta-analytic techniques, we also tested, for each predictor, effect size heterogeneity across studies (Bowen, 2007; Rosenthal, 1991). We then estimated a model that included all of the economic factors, parent and child well-being indicators, and measures of parenting, as well as the demographic characteristics. We further estimated the joint significance of several blocks of variables, including demographics, economic resources, economic hardships, parent and child well-being indicators, and parenting indicators.

4. Results

Table 2a presents the adjusted odds ratios for each predictor in relation to a CPS investigation for neglect, controlling only for demographic characteristics.⁴ We report findings with marginal statistical significance ($p < .10$) as well as findings with more customary levels of statistical significance ($p < .05$) in order to highlight trends that are similar across studies, particularly given the relatively small samples sizes of the HFNY and IFS-CWB studies. Marginally statistically significant findings, particularly for the larger FFCW study, are noted within the tables and the text and should be interpreted with

³ The sample sizes for stayers and leavers reflect numbers within the subgroup of FFCW sample members who had incomes below 200% of the poverty level at baseline.

⁴ Odds ratios for the demographic factors are not presented in the tables in order to highlight predictors that are more malleable and proximal, as opposed to more static in nature.

Table 2aAdjusted¹ odds ratios for individual predictors—CPS neglect.

	FFCW (n=1,820)		HFNY (n=421)		IFS-CWB (n=381)	
Model Summary	Joint Statistical Significance for Block					
Block 1 Demographics	$\chi^2=26.81^{**}$		$\chi^2=42.04^{***}$		$\chi^2=23.78^{**}$	
Block 2 Resources ¹	$\chi^2=18.10^*$		$\chi^2=15.43+$		$\chi^2=20.40^{**}$	
Block 3 Hardships ¹	$\chi^2=16.95^{**}$		$\chi^2=16.66^{**}$		$\chi^2=8.18$	
Block 4 Wellbeing ¹	$\chi^2=21.65^{**}$		$\chi^2=17.09+$		$\chi^2=9.16$	
Block 5 Parenting ¹	$\chi^2=7.63+$		$\chi^2=5.92$		$\chi^2=12.41^{**}$	
Predictors	OR	SE	OR	SE	OR	SE
<i>Economic Factors—Resources and Benefits (Block 2)</i>						
Working ²	.78	.19	.71	.24	.33**	.11
TANF or Food Stamps ²	1.30	.30	2.12**	.24	2.42*	1.24
SSI	1.10	.39	1.47	.30	1.77	.85
Housing subsidy	1.51	.39	1.25	.30	1.72	.65
WIC	1.26	.42	1.10	.27	1.43	.46
Financial assistance from family	1.62*	.37	1.28	.25	1.89*	.60
Food pantry	2.62**	.72	1.79	.37	2.33*	.93
Medicaid	1.14	.31	1.49	.23	0.93	.33
<i>Economic Factors—Hardships (Block 3)</i>						
Couldn't see a doctor	2.00*	.72	2.00*	.35	1.46	.70
Difficulty paying rent	1.10	.32	1.97*	.30	2.12*	.68
Residence <1 year	1.65*	.38	1.78**	.22	1.33	.44
Gas/electronic turned off	2.39**	.78	1.96+	.40	3.47*	2.14
Caregiver cut meals	2.06*	.75	2.09+	.37	1.27	.58
<i>Parent and Child Wellbeing Factors (Block 4)</i>						
Child health problem	.62	.46	2.58*	.42	1.93	1.03
Low birth weight	1.40	.37	1.35	.34	.59	.29
Depression	1.32**	.11	1.33*	.11	1.17	.16
Caregiver health problem	1.94*	.59	2.00*	.30	1.41	.54
Self efficacy	.83 ⁺	.09	.90	.11	.75+	.11
People to loan you money	.78	.23	.97	.22	.54	.27
Severe physical domestic violence	.78	.30	1.49	.35	1.45	.79
Emotional domestic violence	1.39	.39	1.22	.24	.97	.53
Heavy drinking	1.63	.59	1.37	.32	1.34	.81
Drug use	1.47	.92	1.70+	.30	.62	.67
<i>Parenting Factors (Block 5)</i>						
Spanking	1.38	.33	1.68	.34	1.69	.57
Involvement with child's activities ²	.85 ⁺	.08	1.04	.10	.67*	.11
Parenting stress	1.25*	.14	1.18	.11	1.46*	.22

+ p<.10 * p<.05 ** p<.01 *** p<.001.

¹ Controlling for demographic factors.² Shaded rows indicate the variables for which effect sizes were statistically different in terms of the magnitude and/or direction of the association with CPS neglect.

caution. Within the FFCW study, a number of economic predictors have statistically significant associations with (caregiver-reported) CPS neglect. Sample members who reported that they received recent financial assistance from family members, used a food pantry, had been unable to see a doctor when a family member was sick (p<.10), had lived in their current home for less than one year, had a utility shut-off, or cut the size of their meals were more likely than sample members without these circumstances to report subsequent contacts by CPS for neglect-related concerns. FFCW caregivers with higher depression scores and more health problems had greater odds of CPS neglect than less depressed and healthier caregivers, while higher self efficacy scores were associated with decreased odds of CPS neglect (p<.10). Involvement in their (focal) child's activities reduced the odds of CPS neglect (p<.10), whereas higher parenting stress scores increased these odds.

Within the HFNY study, a number of economic predictors also emerged as significant, including public benefit receipt (TANF/Food Stamp), inability to see a doctor, difficulty paying rent, residence

Table 2bAdjusted¹ odds ratios for individual predictors—CTS neglect.

	FFCW (n=1,820)	HFNY (n=421)	IFS-CWB (n=381)			
Model Summary	Joint Statistical Significance for Block					
Block 1 Demographics	$\chi^2=17.39+$		$\chi^2=20.61^*$		$\chi^2=10.26$	
Block 2 Resources ¹	$\chi^2=17.53^*$		$\chi^2=6.70$		$\chi^2=6.71$	
Block 3 Hardships ¹	$\chi^2=16.32^{**}$		$\chi^2=16.47^{**}$		$\chi^2=10.67+$	
Block 4 Wellbeing ¹	$\chi^2=29.26^{**}$		$\chi^2=15.96$		$\chi^2=23.33^{**}$	
Block 5 Parenting ¹	$\chi^2=25.94^{***}$		$\chi^2=8.99^*$		$\chi^2=22.57^{***}$	
Predictors	OR	SE	OR	SE	OR	SE
<i>Economic Factors—Resources and Benefits (Block 2)</i>						
Working	.98	.16	.93	.32	.75	.20
TANF or Food Stamps	.98	.14	.99	.30	1.29	.37
SSI	.94	.23	1.79+	.34	.93	.39
Housing subsidy	1.10	.20	1.28	.37	1.05	.32
WIC	1.25	.28	.77	.33	1.36	.31
Financial assistance from family	1.39*	.21	.99	.32	1.63*	.39
Food pantry	2.01**	.42	1.66	.41	1.30	.41
Medicaid	1.29	.23	.76	.32	1.14	.29
<i>Economic Factors—Hardships (Block 3)</i>						
Couldn't see a doctor	1.83*	.48	1.15	.42	2.67**	.98
Difficulty paying rent	1.40*	.27	2.69**	.33	1.12	.26
Residence <1 year	1.03	.16	1.38	.28	.80	.20
Gas/electronic turned off	1.58*	.41	1.52	.42	1.31	.77
Caregiver cut meals	2.28**	.57	2.96**	.38	1.93*	.63
<i>Parent and Child Wellbeing Factors (Block 4)</i>						
Child health problem	2.16*	.75	.86	.50	2.13+	.90
Low birth weight	1.04	.19	.26*	.63	1.60	.50
Depression	1.22**	.07	1.13	.14	1.40**	.16
Caregiver health problem	1.51*	.32	.99	.36	1.48	.43
Self efficacy	.74***	.05	.70**	.14	.75*	.09
People to loan you money	.85	.17	1.54	.28	.94	.40
Severe physical domestic violence	1.28	.27	1.41	.40	3.89**	1.64
Emotional domestic violence	1.44*	.27	1.02	.32	4.56***	1.74
Heavy drinking	1.38	.36	1.38	.40	1.10	.51
Drug use	2.84**	1.10	1.21	.37	.95	.61
<i>Parenting Factors (Block 5)</i>						
Spanking	1.08	.17	2.71**	.35	1.21	.31
Involvement with child's activities ²	.86*	.06	1.12	.13	.65***	.08
Parenting stress	1.41***	.10	1.05	.13	1.49***	.17

+ p<.10 * p<.05 ** p<.01 *** p<.001.

¹ Controlling for demographic factors.² Shaded rows indicate the variables for which effect sizes were statistically different in terms of the magnitude and/or direction of the association with CTS neglect.

tenure of less than one year, utility shut-offs (p<.10), and cutting the size of meals (p<.10), all of which increased the odds of CPS neglect. Among child and parent well-being factors, caregiver and child health problems, as well as depression and drug use (p<.10) predicted CPS neglect. Parenting measures did not generate statistically significant associations with CPS neglect.

In the IFS-CWB, TANF/Food Stamp receipt (p<.10), recent financial assistance from family, food pantry use, difficulty paying rent, and utility shut-offs all increased the odds of CPS neglect, and caregiver employment reduced the odds of this outcome. Higher self-efficacy scores were negatively associated with CPS neglect (p<.10), as was involvement in the focal child's activities. Higher scores on parenting stress increased the odds of CPS neglect.

Tests for effect size heterogeneity yielded strong support for similarities in the findings across studies. The highlighted rows in Table 2a indicate the variables for which effect sizes were statistically different in terms of the magnitude and/or direction of the association

with CPS neglect. The vast majority of predictors—excepting employment, TANF/Food Stamp use, and involvement in child's activities—were found to have statistically similar effect sizes. In addition, although not presented in the tables, the unadjusted (bivariate) odds ratios for the associations of each of these predictors with CPS neglect across all three studies were highly similar to those presented in Table 2a. This suggests that, within studies, associations between the predictors in Table 2a and investigated CPS neglect reports are not highly influenced by differences in the sample characteristics of the studies.

Tests for joint statistical significance are also presented in Table 2a. The block of demographic variables jointly predicted CPS neglect within each study. Economic resource variables further predicted CPS neglect ($p < .10$ for HFNY) within all three studies. Economic hardship variables jointly predicted CPS neglect only within the FFCW and HFNY studies, and well-being variables jointly predicted CPS neglect in only these two studies, as well ($p < .10$ for HFNY). The block of parenting variables was statistically significant only within the FFCW and the IFS-CWB studies ($p < .10$ for FFCW).

Table 2b repeats the above analysis replacing investigated CPS neglect reports with the dichotomized CTS neglect measure as the outcome variable. With the exception of duration of residence, all of the predictors associated with CPS neglect in the FFCW study are similarly associated with CTS neglect, with only marginal differences in magnitude and statistical significance levels. Additionally, difficulty paying rent ($p < .10$), having a child with a chronic health problem, emotional domestic violence, and drug use are positively associated with CTS neglect. In the HFNY study, only caregiver reports of difficulty paying rent and cutting meals are associated with both neglect outcomes. Receiving SSI ($p < .10$) and use of corporal punishment are additionally found to heighten the odds of CTS neglect, and having a child with a low birth weight (counter to expectation) as well as higher self efficacy scores reduce the odds of CTS neglect in HFNY. In the IFS-CWB, recent financial assistance from family, self efficacy, involvement with a child's activities, and parenting stress are similarly associated with both neglect outcomes. Inability to receive medical care for a sick family member, cutting meals, having a child with a chronic health problem ($p < .10$), caregiver health problem, parental depression, and physical and emotional domestic violence also increase the odds of CTS neglect in the IFS-CWB. As with CPS neglect, the unadjusted odds ratio for each predictor and CTS neglect were similar to those presented in Table 2b for all three studies. Homogeneity tests for effect sizes of predictors of CTS neglect showed that the vast majority of predictors are consistent with each other across the three studies. Only difficulty paying rent, spanking, and involvement in child's activities were found to have statistically different effect sizes across studies.

Tests for the joint significance of variables showed statistically significant contributions for demographic variables in the FFCW and HFNY studies ($p < .10$ for FFCW), economic resource variables within the FFCW study, economic hardship variables within all three studies ($p < .10$ for IFS-CWB), caregiver and child well-being variables within the FFCW and IFS-CWB studies, and parenting variables within every study.

Table 3a presents the results when CPS neglect is regressed on the full set of covariates. In the FFCW study, food pantry use, short duration of residence, parental depression ($p < .10$), and caregiver health problems ($p < .10$) retain at least marginal statistical significance in the full model. In the HFNY study, statistically significant predictors in the full model include public benefit receipt (TANF/Food Stamps), short duration of residence, child health problems ($p < .10$), and parenting stress ($p < .10$). In the IFS-CWB study, caregiver employment, food pantry use ($p < .10$), and child health problems ($p < .10$) have statistically significant associations with CPS neglect. The HFNY and the IFS-CWB found parenting measures to be at least marginally statistically significant in the full model. Although the inclusion of the parenting measures in the final step attenuated some associations between other predictors and CPS neglect in the IFS-CWB, these other predictors

retained statistical significance in the full model. The inclusion of the parenting measures in the FFCW and HFNY also attenuated several associations between other predictors and CPS neglect, but with only two exceptions (utility shut-offs in FFCW and child health conditions in HFNY), these other predictors retained statistical significance in the full model.

Table 3b presents the full model results for CTS neglect. Fewer consistencies emerged across studies for this outcome. In the FFCW study, parenting stress and self-efficacy were the strongest predictors of CTS neglect and, while only marginally statistically significant, parental drug use increased the odds of CTS neglect ($p < .10$), while involvement with a (focal) child's activities reduced these odds ($p < .10$). In the HFNY study, difficulty paying rent, cutting meals, and use of spanking as a disciplinary strategy with the focal child all heightened the odds of CTS neglect, while higher mastery scores and low child birth weight reduced the odds of CTS neglect. In the IFS-CWB study, receiving financial assistance from family, inability to receive medical care for a sick family member, and parenting stress all heightened the odds of CTS neglect while having a child with a chronic health problem ($p < .10$) and emotional domestic violence ($p < .10$) are marginally statistically significant, and involvement with a child's activities reduced these odds. Counter to expectation, difficulty paying rent reduced the odds of CTS neglect in the IFS-CWB. The inclusion of the parenting measures in the model did not substantively affect the statistical significance of other predictors within any of the studies compared to those produced by models (results not shown) which included all of the covariates except the parenting measures.

5. Discussion

Several interesting findings are worth highlighting with respect to the key research questions. Two of the three study aims involved identifying the types of factors that predict CPS neglect within each study, and the extent to which studies had neglect predictors in common. The findings related to the adjusted odds ratios (i.e., demographic controls only) for individual predictors suggest that economic factors play a strong role in predicting subsequent CPS neglect. Including associations with marginal statistical significance ($p < .10$), public benefit receipt, financial assistance from family members, food pantry use, inability to receive medical care for a sick family member, difficulty paying rent, short duration of residence, utility shut-offs, and cutting meals all predict CPS neglect in the same direction in at least two of three studies. Furthermore, across all three studies, all economic factors trended in the same direction with respect to their association with CPS neglect, regardless of whether the association was statistically significant. Two findings—that receiving financial assistance from family members and receiving food from a food pantry are associated with increased neglect—may, at first, seem counterintuitive if these behaviors are interpreted as evidence that a family has social support or a willingness to ask for help (both of which suggest protective capacities). However, they also may reflect that families resort to these forms of assistance only when economic stressors reach a heightened level. It is possible that they may serve as “red flags” that a family is struggling to get by.

Less consistency was observed in terms of trends in the direction of associations as well as statistical significance for measures capturing parent and child wellbeing. Still, at least two of three studies found that parental depression and caregiver health were positively associated with CPS neglect, and two of the three studies also found that self-efficacy was inversely related to CPS neglect. Additionally, one study showed that child health problems predicted CPS neglect, and another study found that parental drug use predicted this outcome. It is possible that the wellbeing factors included in the analyses do not adequately capture degrees of severity or of strength given the decision to dichotomize multiple variables in order to achieve measurement consistency across studies. Slightly more consistency was achieved

Table 3aMultivariate analyses^a predicting investigated CPS neglect reports: significance of block, variance explained, and coefficients for full and final model.

Predictors	FFCW (n = 1820)		HFNY (n = 421)		IFS-CWB (n = 381)	
	OR	SE	OR	SE	OR	SE
<i>Economic factors—resources and benefits (Block 2)</i>						
Working	.80	.21	.93	.28	.28**	.11
TANF or food stamps	1.10	.28	2.04*	.29	1.66	1.00
SSI	1.00	.37	1.31	.33	1.04	.62
Housing subsidy	1.34	.37	.86	.35	1.64	.74
WIC	1.10	.39	.97	.30	1.32	.49
Financial assistance from family	1.29	.32	1.36	.29	.81	.47
Food pantry	2.01*	.66	1.20	.41	2.38+	1.17
Medicaid	1.12	.32	.92	.30	.67	.30
<i>Economic factors—hardships (Block 3)</i>						
Couldn't see a doctor	1.42	.59	1.53	.39	.90	.62
Difficulty paying rent	.76	.25	1.56	.35	1.82	1.01
Residence <1 year	1.69*	.41	1.66*	.24	1.17	.45
Gas/electronic turned off	1.85	.67	1.39	.44	2.72	1.99
Caregiver cut meals	.98	.42	1.26	.41	.68	.41
<i>Parent and child wellbeing factors (Block 4)</i>						
Child health problem	.39	.31	2.22+	.47	3.02+	1.93
Low birth weight	1.33	.37	1.19	.37	.44	.26
Depression	1.20+	.11	1.15	.15	.89	.17
Caregiver health problem	1.85+	.61	1.49	.33	1.04	.50
Self efficacy	.93	.11	1.10	.14	.88	.17
People to loan you money	1.04	.33	.78	.26	1.02	.66
Severe physical domestic violence	.50	.21	.89	.40	1.72	1.70
Emotional domestic violence	1.09	.33	1.14	.27	.57	.53
Heavy drinking	1.23	.49	.91	.36	1.55	1.06
Drug use	1.09	.74	1.38	.34	.36	.44
<i>Parenting factors (Block 5)</i>						
Spanking	1.12	.28	1.40	.36	1.86	.71
Involvement with child's activities	.87	.09	1.09	.13	.71	.13
Parenting stress	1.16	.14	1.28+	.14	1.50*	.27
Final model	$\chi^2 = 84.61^{**}$	$R^2 = .12$	$\chi^2 = 85.47^{***}$	$R^2 = .25$	$\chi^2 = 70.86^{***}$	$R^2 = .23$

+ p < .10.

* p < .05.

** p < .01.

*** p < .001.

^a Controls for demographic factors also included, but not shown.

with respect to the parenting predictors. Spanking and parenting stress trended in the same direction across studies, and both involvement with the child's activities and parenting stress were associated with CPS neglect in two of the three studies.

It is also noteworthy that the observed associations between economic predictors and neglect outcomes were not substantively affected by the inclusion of parenting measures in Tables 3a and 3b. This raises several important questions with respect to the prevention field's tendency to focus on parenting indicators, both as harbingers of maltreatment as well as the focus of interventions, with poverty issues typically taking a more peripheral role or no role at all. Might indicators of proximal economic risks (e.g., recent material hardships) serve as both a warning sign that a family is struggling in other family domains, as well as provide a target for prevention activities? This is not to say that economic stress in and of itself constitutes "bad parenting." Particularly with respect to the CPS neglect analyses, it is possible that indicators of poverty serve as observable proxies to potential maltreatment reporters, who either accurately or inaccurately attribute such conditions as problematic for child safety. Certain aspects of economic stress may also make some families more visible to potential reporters. Research testing the so-called "surveillance bias" seeks to understand whether such things as public benefit receipt or housing instability may heighten the likelihood that a family becomes known to individuals who report maltreatment (Coulton, Crampton, Irwin, Spilsbury & Korbin, 2007; McDaniel & Slack, 2005).

Within studies, the FFCW study had the most consistent associations between economic factors and each of the two neglect outcomes.

Financial assistance from family, food pantry use, utility shut-offs, and cutting meals all predicted both neglect outcomes. In the HFNY study, only difficulty paying rent and cutting meals predicted both neglect outcomes despite several other statistically significant associations between other economic factors and CPS neglect. Only financial assistance from family members predicted both neglect outcomes in the IFS-CWB. Some of the consistency across statistical models in the FFCW may be attributable to the fact that both CPS and CTS neglect outcomes were collected via self-report. However, if social desirability bias had any influence on respondents' willingness to disclose CPS involvement or behaviors that could constitute neglect, it is likely that this affected both neglect measures similarly. Even among those willing to report neglect episodes, it is interesting to note that economic predictors played an equivalent role across neglect outcomes.

With respect to parent and child wellbeing factors and parenting indicators, both the FFCW and IFS-CWB studies had within-study similarities across neglect outcomes. Depression, self-efficacy, involvement with child's activities, and parenting stress all predicted CPS and CTS neglect in the FFCW, and self-efficacy, involvement with child's activities, and parenting stress all predicted CPS and CTS neglect in the IFS-CWB. No common predictors across neglect outcomes emerged for the HFNY study, although several factors predictive of one neglect outcome trended in the same direction for the other neglect outcome.

Although the evidence is somewhat mixed, the fact that several predictors within studies are consistent across neglect outcomes suggests that reporter or surveillance bias may not fully explain the observed associations between several predictors of CPS neglect. This

Table 3b
Multivariate analyses^a predicting self-reported neglect (CTS-neglect subscale).

Predictors	FFCW (n = 1820)		HFNY (n = 421)		IFS-CWB (n = 381)	
	OR	SE	OR	SE	OR	SE
<i>Economic factors—resources and benefits (Block 2)</i>						
Working	1.00	.17	1.05	.37	.73	.22
TANF or food stamps	.83	.13	1.18	.37	1.15	.42
SSI	.90	.23	1.66	.39	.47	.24
Housing subsidy	1.05	.20	1.48	.44	.84	.29
WIC	1.23	.29	.74	.37	1.45	.38
Financial assistance from family	1.15	.20	.89	.40	3.85**	1.92
Food pantry	1.41	.34	1.17	.48	.91	.36
Medicaid	1.30	.25	.57	.38	1.16	.36
<i>Economic factors—hardships (Block 3)</i>						
Couldn't see a doctor	1.27	.37	.58	.48	2.67*	1.23
Difficulty paying rent	1.03	.22	2.66*	.39	.31*	.15
Residence <1 year	1.00	.16	1.18	.33	.82	.23
Gas/electronic turned off	1.23	.35	.99	.49	.55	.38
Caregiver cut meals	1.42	.41	2.85*	.46	1.48	.60
<i>Parent and child wellbeing factors (Block 4)</i>						
Child health problem	1.66	.63	.95	.59	2.59+	1.31
Low birth weight	1.02	.20	.27*	.67	1.40	.50
Depression	1.08	.07	.77	.20	1.06	.15
Caregiver health problem	1.18	.26	.79	.41	.82	.29
Self efficacy	.82**	.06	.65*	.18	.97	.14
People to loan you money	1.07	.22	1.64	.35	1.79	.98
Severe physical domestic violence	.90	.21	1.25	.48	1.12	.82
Emotional domestic violence	1.05	.22	.99	.38	3.12+	2.05
Heavy drinking	1.19	.33	1.38	.46	1.29	.66
Drug use	2.12+	.90	.80	.45	.51	.39
<i>Parenting factors (Block 5)</i>						
Spanking	.89	.15	3.19**	.40	1.09	.32
Involvement with child's activities	.89+	.06	1.15	.16	.66**	.09
Parenting stress	1.30***	.10	.96	.17	1.46**	.20
Final model	$\chi^2 = 95.82^{**}$	$R^2 = .07$	$\chi^2 = 65.39^{**}$	$R^2 = .24$	$\chi^2 = 74.35^{***}$	$R^2 = .15$

+ p < .10.

* p < .05.

** p < .01.

*** p < .001.

^a Controls for demographic factors also included, but not shown.

provides some support for considering select predictors as meaningful indicators of child neglect risk (or of reduced risk) within more general populations of low-income families with young children.

To sum the main findings from the analyses, economic factors tended to play a stronger role in predicting CPS neglect than in predicting CTS neglect (see Tables 2a and 2b). Several economic factors were similarly associated with both neglect outcomes within studies, and with individual neglect outcomes across studies. Consistencies (across outcomes within studies and across studies with each outcome) also emerged related to parenting factors, although parenting measures did not significantly attenuate associations between other factors and the neglect outcomes. Finally, less consistency emerged across outcomes within studies with respect to parent and child wellbeing indicators. Across studies, self efficacy generated the most consistent findings in that higher levels of self efficacy were associated with lower odds of CPS and CTS neglect.

Several limitations of the present analysis deserve note. First, as stated earlier, in an effort to achieve commonality on measures across studies, several measures were dichotomized. Thus, variation in several measures was not fully considered in statistical models, potentially rendering otherwise meaningful associations statistically insignificant. There were also several measurement differences across studies with respect to both predictors and outcomes. For example, CPS neglect in FFCW was self-report, whereas in the HFNY and IFS-CWB studies it was based on official administrative records. All studies experienced issues with attrition, particularly with respect to race and ethnicity (which seemed to affect all three studies in a consistent manner). This could

limit the generalizability of findings for Hispanic or Latino families, and for families with primary caregivers who identify themselves as white.

Although a primary goal of this exercise was to ensure the measurements of risk and protective factors preceded the neglect outcomes, the HFNY and FFCW studies used some predictors from a subsequent 12-month follow-up survey, so neither study afforded a purely prospective assessment of the predictors of neglect. However, the three studies that together comprise the focus of this analysis advance our knowledge about the risk and protective factors associated with neglect in early childhood by largely meeting the criterion of being a prospective approach to studying child neglect. Such relationships do not necessarily indicate a causal relationship with neglect, nor do such relationships illuminate the mechanisms or pathways by which each predictor is related to neglect. The present analysis is only an initial step toward a more rigorous understanding of the causal factors and mechanisms leading to child neglect.

Despite these various limitations and the differences across studies in design and measurement, the particular strength of this analysis rests on the consistency of select findings across three samples of low-income families, *despite their differences*. Practitioners who serve families prior to family involvement with child protective services stand to benefit from an understanding of what elevates the probability of future maltreatment. Furthermore, preventive service settings are not always conducive to the administration of existing child abuse and neglect risk assessment tools, which often contain highly sensitive questions, or are designed to be administered in the context of a maltreatment investigation (Slack, Holl, Altenbernd, McDaniel, & Stevens,

2003). In contrast, the vast majority of risk and protective factors included in the present analysis are derived from measures that are easily administered by service providers, and likely to be viewed by parents and other caregivers as non-threatening. This could aid prevention practitioners, who often operate within resource-strained agencies, in the development of more relevant services for at-risk families, and in the identification of families that are most likely to benefit from these services.

Particular findings from this exercise warrants attention. The most consistent findings on the predictors of child neglect across the three studies relate to the role of economic hardship. A highly similar set of economic factors showed statistically significant associations with neglect outcomes in the regression models controlling for demographic characteristics, and many retained statistical significance in the full models predicting neglect. It is long known that poverty is a significant correlate of maltreatment in general, in particular neglect (Drake & Pandey, 1996; Jones & McCurdy, 1992; Pelton, 1981; Sedlak & Broadhurst, 1996). Several studies have also found that specific material hardships elevate the risk of CPS involvement for maltreatment, in general (Courtney, Dworsky, Piliavin, & Zinn, 2005; Slack et al., 2004; Slack, Lee & Berger, 2007). Yet, very little research has been conducted to understand the particular aspects of poverty that may strain families' abilities to provide for the basic needs of young children, setting the stage for possible child neglect.

Clearly, not all impoverished families with young children are at risk for child neglect, and it remains unclear whether certain indicators of poverty may serve to heighten the visibility of low-income families to potential maltreatment reporters. But given the strong historical association between poverty and neglect, it is important to distinguish low-income families whose economic struggles may serve as red flags for child neglect from those that are able to provide adequately for their children despite economic strain. Interventions designed to target such families and address their specific economic hardships could potentially reduce the risk of neglect for very young children, although more research on the causal role of economic hardship in child neglect is needed.

Associations between many of the constructs in the present analyses have also been found in the existing literature. The most notable exception to this is found with respect to the block of child and parent well-being measures. For example, social support (Brayden et al., 1992; Dukewich, Borkowski & Whitman, 1996; Hunter et al., 1978; Kotch et al., 1997, 1999), domestic violence (McGuigan & Pratt, 2001; Windham et al., 2004), and multiple aspects of parental mental health and substance abuse (Brayden et al., 1992; Christensen, Brayden, Dietrich, McLaughlin, & Sherrod, 1994; Epstein, 2002; Jaude & Mackey-Bilaver, 2008; Kotch et al., 1995, 1999; Strathearn et al., 2009; Windham et al., 2004; Wu et al., 2004) have all been repeatedly shown to predict child maltreatment. However, with the exception of parental depression, these constructs did not yield many statistically significant associations in the present analyses. This is likely a limitation of the measures available for this exercise (i.e., only measures that were commonly available across all three studies were selected), and not a finding of non-support for these constructs.

Finally, although the measures of parenting available for the present exercise were limited in scope, the findings for these measures across studies and neglect outcomes were largely consistent in direction, and (in some cases) magnitude. Several parenting measures retained statistically significant relationships with neglect outcomes in the full multivariate models. Efforts to replicate findings across studies with prospective designs and with a more extensive set of common parenting measures are needed.

6. Conclusion

This analysis involved the identification of risk and protective factors related to multiple measures of child neglect across three studies

with prospective research designs. Despite differences in study design and sample characteristics, many consistencies emerged with respect to predictors of neglect. In particular, economic and parenting factors trended in the same direction across studies, particularly in statistical models predicting investigated reports of neglect. Additionally, parental depression and self-efficacy trended in the same direction across studies in predicting both neglect outcomes.

Such findings do not rule out the possibility of selection bias—that certain unobserved characteristics predict both neglect risk as well as economic stress. However, the purpose of this exercise was not to identify causal associations between predictors and neglect outcomes. Rather, the purpose was to identify factors that are predictive of neglect within and across studies of similar populations utilizing prospective research designs, to determine if consistent associations emerge. The fact that several consistencies were identified across studies provides more weight to the evidence that certain factors operate as risk (or protective) factors vis-à-vis child neglect. Such information can aid in the development of risk assessment tools designed for use in voluntary family service settings, as well as in the development of better targeted and potentially more effective preventive services.

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References

- Block, R. (2002). Child fatalities. In J. E. B. Myers, L. Berliner, J. Briere, C. T. Hendrix, C. Jenny, & T. A. Reid (Eds.), *The APSAC handbook on child maltreatment* (pp. 293–301). (2nd ed.). Thousand Oaks, CA: Sage.
- Bowen, C. (2007). Meta-analysis. In K. Yang, & G. Miller (Eds.), *Handbook of research methods in public administration* (pp. 705–720). (2nd ed.). Boca Raton, FL: Taylor & Francis Group.
- Brayden, R. M., Altemeier, W. A., Tucker, D. D., Dietrich, M. S., & Vietze, P. (1992). Antecedents of child neglect in the first two years of life. *The Journal of Pediatrics*, 120(3), 426–429.
- Christensen, M. J., Brayden, R. M., Dietrich, M. S., McLaughlin, F. J., & Sherrod, K. B. (1994). The prospective assessment of self-concept in neglectful and physically abusive low-income mothers. *Child Abuse & Neglect*, 18(3), 225–232.
- Coulton, C. J., Crampton, D. S., Irwin, M., Spilsbury, J. C., & Korbin, J. E. (2007). How neighborhoods influence child maltreatment: A review of the literature and alternative pathways. *Child Abuse & Neglect*, 31, 1117–1142.
- Courtney, Mark E., Dworsky, Amy, Piliavin, Irving, & Zinn, Andrew (2005). Involvement of TANF applicant families with child welfare services. *The Social Service Review*, 79(1), 119–157.
- Drake, B., & Pandey, S. (1996). Understanding the relationship between neighborhood poverty and specific types of child maltreatment. *Child Abuse & Neglect*, 20(11), 1003–1018.
- Dukewich, Borkowski, & Whitman (1996). Adolescent mothers and child abuse potential: An evaluation of risk factors. *Child Abuse & Neglect*, 20(11), 1031–1047.
- DuMont, K. A., Mitchell-Herzfeld, S., Greene, R., Lee, E., Lowenfels, A., Rodriguez, M., et al. (2008). Healthy Families New York (HFNY) Randomized Trial: Effects on early childhood abuse and neglect. *Child Abuse & Neglect*, 32, 295–315.
- Epstein, M. R. (2002). Predicting abuse and neglect in the first two years of life from risk assessments during the prenatal and perinatal period. Ph.D. Dissertation. University of California-Davis.
- Hunter, R. S., Kilstrom, N., Kraybill, E. N., & Loda, F. (1978). Antecedents of child-abuse and neglect in premature-infants: Prospective-study in a newborn intensive-care unit. *Pediatrics*, 61(4), 629–635.
- Jaude, P. K., & Mackey-Bilaver, L. (2008). Do chronic conditions increase young children's risk of being maltreated? *Child Abuse & Neglect*, 32, 671–681.
- Jones, E. D., & McCurdy, R. (1992). The links between types of maltreatment and demographic characteristics of children. *Child Abuse & Neglect*, 16(2), 201–215.
- Kotch, J. B., Browne, D. C., Dufort, V., Winsor, J., & Catellier, D. (1999). Predicting child maltreatment in the first 4 years of life from characteristics assessed in the neonatal period. *Child Abuse & Neglect*, 23(4), 305–319.
- Kotch, J. B., Browne, D. C., Ringwalt, C. L., Dufort, V., Ruina, E., Stewart, P. W., et al. (1997). Stress, social support, and substantiated maltreatment in the second and third years of life. *Child Abuse & Neglect*, 21(11), 1025–1037.

- Kotch, J. B., Browne, D. C., Ringwalt, C. L., Stewart, P. W., Ruina, E., Holt, K., et al. (1995). Risk of child abuse or neglect in a cohort of low-income children. *Child Abuse & Neglect*, 19(9), 1115–1130.
- Kraemer, H. C., Kazdin, A. E., Offord, D. R., Kessler, R. C., Jensen, P. S., & Kupfer, D. J. (1997). Coming to terms with the terms of risk. *Archives of General Psychiatry*, 54, 337–343.
- Lee, B. J., & Goerge, R. M. (1999). Poverty, early childbearing, and child maltreatment: A multinomial analysis. *Children and Youth Services Review*, 21(9–10), 755–780.
- Lewis, D., Shook, K., Stevens, A., Kleppner, P., Lewis, J., & Riger, S. (2000). *Work, welfare and well-being: An independent look at welfare reform in Illinois*. Evanston, IL: Northwestern University, Institute for Policy Research.
- McDaniel, M., & Slack, K. S. (2005). Major life events and the risk of a child maltreatment investigation. *Children and Youth Services Review*, 27, 171–195.
- McGuigan, W. M., & Pratt, C. C. (2001). The predictive impact of domestic violence on three types of child maltreatment. *Child Abuse & Neglect*, 25(7), 869–883.
- Pearlin, L., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior*, 19(1), 2–21.
- Pelton, L. (1981). *The social context of child abuse and neglect*. New York: Human Sciences Press.
- Reichman, N. E., Teitler, J. O., Garfinkel, I., & McLanahan, S. S. (2001). Fragile families: Sample and design. *Children and Youth Services Review*, 23(4), 303–326.
- Rosenthal, R. (1991). *Meta-analytic procedures for social research* (rev. ed.). Newbury Park, CA: Sage.
- Sedlak, A., & Broadhurst, D. (1996). *Third national incidence study of child abuse and neglect*. Washington, D.C.: U.S. Department of Health and Human Services.
- Sedlak, A. J., Mettenberg, J., Basena, M., Petta, I., McPherson, K., Greene, A., et al. (2010). *Fourth National Incidence Study of Child Abuse and Neglect (NIS-4): Report to Congress*. Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families.
- Shlonsky, A. (2007). Initial construction of an actuarial risk assessment measure using the National Survey of Child and Adolescent Well-Being. In R. Haskins, F. Wulczyn, & M. B. Webb (Eds.), *Child protection: Using research to improve policy and practice* (pp. 62–80). Washington, D.C.: The Brookings Institution.
- Slack, K. S., Holl, J., Altenbernd, L., McDaniel, M., & Stevens, A. B. (2003). Improving the measurement of child neglect for survey research: Issues and recommendations. *Child Maltreatment*, 8(2), 98–111.
- Slack, K. S., Holl, J. L., McDaniel, M., Yoo, J., & Bolger, K. (2004). Understanding the risks of child neglect: An exploration of poverty and parenting characteristics. *Child Maltreatment*, 9(4), 395–408.
- Slack, K. S., Lee, B. J., & Berger, L. M. (2007). Do welfare sanctions increase child protection system involvement? A cautious answer. *The Social Service Review*, 81(2), 207–228.
- Slack, Berger, Yang, & Gjertson, L. (2010). *A systematic review of the literature on risk factors for child neglect*. Unpublished Manuscript.
- Stith, S. M., Liu, T., Davies, L. C., Boykin, E. L., Alder, M. C., Harris, J. M., et al. (2009). Risk factors in child maltreatment: A meta-analytic review of the literature. *Aggression and Violent Behavior*, 14, 13–29.
- Strathearn, L., Mamun, A., Najman, J., & O'Callaghan, M. (2009). Does breastfeeding protect against substantiated child abuse and neglect? A 15-year cohort study. *Pediatrics*, 123, 483–493.
- Straus, M. A., Hamby, S. L., Finkelhor, D., Moore, D. W., & Runyan, D. (1998). Identification of child maltreatment with the Parent–Child Conflict Tactics Scales: Development and psychometric data for a national sample of American parents. *Child Abuse & Neglect*, 22(4), 249–270.
- U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, & Children's Bureau (2010). *Child Maltreatment 2008*. Available from http://www.acf.hhs.gov/programs/cb/stats_research/index.htm#can
- Windham, A. M., Rosenberg, L., Fuddy, L., McFarlane, E., Sia, C., & Duggan, A. K. (2004). Risk of mother-reported child abuse in the first 3 years of life. *Child Abuse & Neglect*, 28, 645–667.
- Wu, S. S., Ma, C. X., Carter, R. L., Ariet, M., Feaver, E. A., Resnick, M. B., et al. (2004). *Child abuse & neglect*, 28, 1253–1264.
- Wulczyn, F., Hislop, K., & Jones Harden, B. (2002). The placement of infants in foster care. *Infant Mental Health Journal*, 23, 454–475.