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## Research article

## Change and consistency in descriptions of child maltreatment: A comparison of caregivers' perspectives 20 years apart

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## ABSTRACT

Although approximately one-fifth of child maltreatment reports originate with family members, friends, neighbors, or community members, their efforts to identify and report child maltreatment are still not well understood. Nor is it well understood how these individuals' perceptions of what constitutes maltreatment may change over time. This study examined descriptions of behavior perceived as maltreatment by caregivers of minors in Cleveland, Ohio, USA neighborhoods. Data were obtained from two neighborhood-based cross-sectional surveys of caregivers of minors: one conducted in 1995–1996 and the other in 2014–2015. The sample consisted of 400 caregivers living in 20 census tracts with varying profiles of maltreatment risk in the 1995–1996 study, and 400 caregivers living in the same 20 census tracts surveyed in 2014–2015. Each time point, participants were asked to provide three examples of behaviors they considered to be child abuse and neglect. All responses were categorized using the 1995–1996 coding scheme. Logistic regression analyses including all 800 participants, adjusted for individual and neighborhood characteristics, and accounting for residential clustering in neighborhoods, showed that participating in the 2014–2015 survey was associated with 51% increased odds of mentioning an act of neglect and a 39% decreased odds of mentioning an act of physical abuse. No significant temporal changes were observed for inadequate supervision, emotional or verbal abuse, sexual abuse, and parental misbehavior. Associations between specific types of maltreatment and individual and neighborhood characteristics were observed. Potential practice implications and future research directions include seeking greater familiarity with caregivers' perceptions of maltreating behaviors to better understand how these perceptions might “translate” into child maltreatment reports and investigations.

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## 1. Introduction

Most attention to the definitional criteria of child maltreatment and reporting behavior has seemingly gravitated towards mandated professional reporters: e.g., physicians and educators (Block, Poplin, Wang, Widaman, & Runyan, 2016; Delaronde, King, Bendel, & Reece, 2000; Gilbert, Spatz Widom, Browne, Fergusson, & Webb, 2009; Mathews & Kenny, 2008; Palusci, Vandervort, & Lewis, 2016; Pietrantonio et al., 2013). Yet, in 2016, 18% of the approximately 2.3 million reports to Child Protective Services in the U.S. originated from persons such as family members, friends, neighbors, community members, or other categories of non-mandated reporters (U.S. Department of Health & Human Services [HHS], Administration for Children & Families, Administration on Children, Youth & Families, Children's Bureau, 2018). Another 7% of reports were received anonymously, and an unspecified portion of the anonymous reports may likewise have originated from these types of individuals.

For the purposes of this research, we have directed our attention to caregivers of children under 18 years of age living in urban neighborhoods. This is a segment of the population on what could be termed the “front lines” of everyday home and residential settings, and who are determining whether behaviors directed at children should be considered maltreatment in the context in which families live. Information related to caregivers' perceptions of what constitutes maltreatment is sparse and derived from a similar methodology. Beginning with the work of Giovannoni and Becerra (1979), studies reporting on perceptions of child maltreatment held by the public have largely relied on an investigator-developed, vignette approach to data collection in which participants were asked to identify or rate specific actions or behaviors as constituting child abuse or neglect (Bensley et al., 2004; Dhooper, Royse, & Wolfe, 1991; Portwood, 1998, 1999; Price et al., 2001) or to rank certain actions according to severity (Ferrari, 2002). Vignettes were broadly organized into categories corresponding to physical abuse, psychological/emotional abuse, sexual abuse, and neglect. Findings from studies conducted by Portwood (1998, 1999) suggested that participants perceived virtually all presented vignettes (e.g., slapping a child, calling a child names, failing to wash child's hair for a week) as constituting maltreatment, with sexual abuse ranked as its most severe form. On the whole, while these investigations indicated that classification of specific behaviors as abusive or neglectful may differ by personal and group characteristics (Dhooper et al., 1991; Dickerson, Lindner, Scurich, & Quas, 2017; Ferrari, 2002; Portwood, 1999), some common themes have emerged around what constitutes maltreatment: e.g., excessive physical discipline, denial/restriction of needed resources such as food, and sexual activity between adults and young children.

Existing investigations have clearly made substantial contributions to our knowledge about behaviors considered maltreatment. However, there are limitations. First, although an investigator-designed set of vignettes ensures that all participants respond to the same stimuli, this methodology excludes consideration of participant-generated actions considered maltreatment. Our research instead asks for participant-generated lists behaviors that would be considered maltreatment. While this approach has the disadvantage of not all participants responding to the same stimuli, it has the advantage of potentially identifying behaviors that investigators did not include a priori, thus allowing a more context- or respondent-focused picture.

A second limitation of existing definitional studies is that they are cross-sectional, revealing perceptions held at a single time point. The degree to which these perceptions change over time is unknown. Recent research on child maltreatment rates suggests that there have been important changes in substantiation rates over time (e.g., Finkelhor, Saito, & Jones, 2015), and data show an increase in reports of child maltreatment over the past five years (U.S. Department of Health & Human Services [HHS], Administration for Children & Families, Administration on Children, Youth & Families, Children's Bureau, 2018). However, the reasons for these changes remain speculative and include economic fluctuations, criminal justice system involvement, improved mental health treatment, and shifting cultural norms around caring for children (Institute of Medicine & National Research Council, 2013). Understanding caregivers' views about maltreatment may shed light on whether the observed change is related in some way to how individuals define, and thus report, maltreatment.

Soliciting caregivers' views about what constitutes child abuse and neglect is also important because this information may reflect underlying social norms around maltreating behavior(s), which may provide targets for intervention. For example, social norms pertaining to physical discipline as a common, acceptable, and effective method for correcting children's behavior may be a substantial driver of its use among parents (Klevens & Whitaker, 2007; Porzig-Drummond, 2015; Taylor, Hamvas, Rice, Newman, & DeJong, 2011). Based on an understanding of the relevant norms, interventions targeting persons' perceptions of what is normative behavior have shown promise in reducing forms of violence (see Perkins, Craig, & Perkins, 2011; and an overview of several programs in Lilleston, Goldmann, Verma, & McCleary-Sills, 2017).

This paper adds to the literature a consideration of whether behaviors identified as child maltreatment by caregivers has changed over time, potentially contributing to changes in rates of child maltreatment reports. We compare caregiver descriptions of behaviors that constitute maltreatment in a neighborhood-based sample of Cleveland, Ohio, USA caregivers at two time points: 1995–1996 and 2014–2015. Although we cannot assume that caregivers' descriptions would necessarily result in a report or subsequent substantiation, these perceptions, and their changes over a twenty-year period, may be important in understanding broader trends in child maltreatment.

## 2. Method

### 2.1. Overview

The data reported in this paper are based on two studies examining the relationship of neighborhood conditions and perceptions of child maltreatment: i.e., repeated cross-sectional studies. The first study, *Neighborhood and Household Factors in the Etiology of Child Maltreatment* (90-CA-1548: Korbin & Coulton, 1999) was undertaken in 1995–1996. The second study, *Neighborhood Factors and Child*

*Maltreatment: A Mixed-Methods Study* (R01 HD077002), was designed to re-examine the findings from the first study approximately twenty years later, in 2014–2015. The data collected from these two studies provided an opportunity to investigate changes in neighborhood residents' descriptions of maltreatment in the same geographies over a twenty-year period.

## 2.2. Sample

The study sample consisted of two cross-sectional subsamples: 400 adult residents of 20 census tracts in Cleveland, Ohio from the 1995–1996 study, and 400 adult residents of the same 20 census tracts surveyed in 2014–2015. All participants were parents or legal guardians of at least one child 17 years of age or younger living in the household (see below). The sampling method differed slightly across the time points, so each is described below.

**1995–1996:** The sampling method has been previously described (Korbin, Coulton, Lindstrom-Ufuti, and Spilsbury, 2000). Briefly, the sample was constructed utilizing a 3-stage strategy, selecting census tracts first, followed by selecting block groups within those tracts, and then followed by selecting residents within each neighborhood. Neighborhoods were selected by first stratifying all 196 Cleveland residential census tracts on 3 factors strongly associated with child maltreatment: impoverishment, child care burden, and whether they were predominately African–American, White, or of mixed race/ethnicity (Coulton, Korbin, Su, & Chow, 1995). The factors were dichotomized at their means to create strata, and then 20 tracts were randomly selected representing each stratum. We then randomly selected a census-defined block group within each tract to serve as the neighborhood unit. To identify residents, all addresses in each block group were listed from computer-generated map files and verified in person by our research team. Streets within each block group were then randomly ordered and an address randomly chosen on each street. Interviewers began at the randomly selected address and contacted every third household. Interviewers made three call-backs at different times of the day and different days of the week before excluding a household. At each time point, an adult was eligible for study if s/he were the parent or guardian of at least one child 17 years of age or younger living in the home. One adult per household participated.

Interviewers approached 2448 occupied housing units. Interviewers spoke with an adult in 2098 households (85.7%). Of the 2098 households that were contacted, 1399 (66.7%) reported not having children under 18 years of age residing in the household, 243 (11.7%) refused to be screened, and 56 (2.7%) did not speak English. Four hundred households met the criteria for inclusion in the study, and a parent or guardian in each household completed the interview.

**2014–2015:** In each of the study neighborhoods selected in 1995–1996, interviewers returned to the same domiciles that had participated in the previous study to determine if there were an eligible adult (same criteria as earlier study) to participate. Using this location as a starting point, interviewers initially contacted every third household in a predetermined, randomized order. However, this approach rapidly became unwieldy because numerous housing units were either vacant (likely a result of the 2008 recession) or without children. Instead, streets within each block group were randomly ordered, an address was randomly selected on each street as a starting point, and then all households on that street were visited. The same 1995–1996 method of three call-backs before excluding a household was used. In 2014–2015, a total of 6295 occupied housing units were approached, and interviewers spoke with an adult in 5008 of the units (79.6%). Of the contacted homes, 4064 (81.2%) reported no children in the household, 482 (9.6%) refused screening, and 42 (0.8%) did not speak English. A total of 420 parents initially agreed to participate in the study. However, 17 dropped out before completing study procedures, and three individuals were removed from the study sample (two because of an unusually large amount of missing data, and one because of interviewer safety concerns in the household), leaving a sample of 400 individuals (20 per study neighborhood) meeting inclusion criteria who completed all study procedures.

In both 1995–1996 and 2014–2015, individuals provided written informed consent before participating in the interviews and were compensated for their time. At both time points, the study was approved by Case Western Reserve University's Institutional Review Board.

## 2.3. Measures

**Maltreatment Descriptions:** At both time points, an hour-long interview was conducted with each participant at her/his home by a member of the study team, which consisted of social-science graduate and undergraduate students trained by the study's principal investigator and co-investigators in all study procedures, including qualitative data analysis. The interview queried participants about neighborhood conditions, childrearing, and child maltreatment (see Korbin & Coulton, 1999). Moreover, participants were asked to respond to the following open-ended question: "Can you list three things that you would consider to be child abuse and neglect?" In 1995–1996, the responses were recorded verbatim in writing by the interviewer. After completion of interviews, two study-team members created an unsorted list of all 400 participants' responses, examined the responses, and jointly developed a classification/coding system ("Codebook") consisting of 46 categories. These categories were developed inductively from reading and comparing responses, detecting patterns, similarities, and differences in the responses themselves (i.e., a grounded approach). Following the study director's review of the system to insure that categories were clearly defined, two team members not involved in codebook development independently categorized all responses, including responses in situations where a participant provided more than three. After coding was completed, a third staff member who did not conduct the coding resolved any coding discrepancies. Inter-rater reliability statistics for the 1995–1996 coding are not retrievable because the project recorded only the final agreed-upon or resolved codes.

In addition to the individual behaviors, six summary variables were created to re-categorize behaviors into one of six summary categories (Supplementary Table 1): i.e., all individual behaviors of neglect (e.g., not feeding a child; not taking a child to the doctor; not providing adequate clothing) were categorized as "neglect"; all individual behaviors of physical abuse (e.g., hitting, beating,

**Table 1**  
Sample characteristics for each time point.

	Total Sample		Neighborhoods	
	1995-1996 (n = 400)	2014-2015 (n = 399) <sup>a</sup>	1995-1996 (n = 20)	2014-2015 (n = 20)
<b>Individual Characteristics</b>				
Age (yrs), mean (SD)	34.1 (9.5)	37.6 (11.4)***	34.2 (2.1)	37.6 (3.5)**
Female gender, n (%) for total sample, mean percent (SD) for neighborhoods	328 (82.0)	329 (82.4)	82.0 (9.8)	82.5 (9.8)
<b>Race</b>				
African American, n (%) for total sample, mean percent (SD) for neighborhoods	219 (54.8)	241 (60.4)	54.8 (0.4)	60.3 (0.3)
White n (%) for total sample, mean percent (SD) for neighborhoods	145 (36.3)	95 (23.8)***	36.3 (0.3)	23.8 (0.3)**
Other <sup>b</sup> n (%) for total sample, mean percent (SD) for neighborhoods	36 (9.0)	63 (15.8)**	2.0 (4.1)	8.5 (5.9)**
Tenure in neighborhood (yrs), mean (SD)	10.7 (11.0)	10.6 (11.8)	10.7 (2.9)	10.6 (4.0)
HS education or more, n (%) for total sample, mean percent (SD) for neighborhoods	291 (72.8)	318 (79.7)*	72.8 (14.6)	79.8 (12.1)
Employed, n (%) for total sample, mean percent (SD) for neighborhoods	266 (66.5)	275 (69.0)	66.5 (11.0)	69.2 (11.4)
Income below federal poverty level, n (%) for total sample, mean percent (SD) for neighborhoods	240 (60.0)	230 (57.5)	60.0 (17.8)	57.5 (16.1)
Income above federal poverty level, n (%) for total sample, mean percent (SD) for neighborhoods	145 (36.3)	159 (39.8)	36.3 (17.8)	39.7 (17.0)
Income unknown/missing, n (%) for total sample, mean percent (SD) for neighborhoods	15 (3.8)	11 (2.8)	3.8 (3.2)	2.8 (3.8)
<b>Neighborhood Characteristics</b>				
Violent crime, per 100 population (SD)	1.7 (0.8)	1.9 (0.8)***	1.7 (0.8)	1.9 (0.8)
Illicit drug offenses, per 100 population (SD)	0.8 (0.6)	0.7 (0.6)**	0.8 (0.7)	0.7 (0.6)
Children receiving SNAP benefits, mean percent (SD)	65.6 (16.6)	74.6 (19.6)***	65.6 (17.0)	74.6 (20.1)*
Child maltreatment investigations per 100 child population (SD)	7.2 (2.5)	12.0 (3.8)***	7.2 (2.6)	12.0 (3.9)***

Note: HS = High school, IQR = Interquartile range; SD = Standard deviation, SNAP = Supplemental Nutrition Assistance Program.

<sup>a</sup> p < .05, \*\*p < .01, \*\*\* p < .001.

<sup>a</sup> Except for income-poverty status, where the three categories total = 400.

<sup>b</sup> Other = 27 Hispanic, 3 Asian, 3 Native American, 3 “other” in 1995; 30 Hispanic, 30 “Bi- or multi-racial,” 2 Native American, 1 Asian in 2015.

punching) were categorized as “physical abuse”; and so on for “lack of supervision,” “emotional or verbal abuse,” “sexual abuse,” and “parental misbehavior.” Multiple responses that fell within the same summary variable were counted only once in that summary variable. In other words, the summary variables indicated whether a participant reported at least one behavior in each category. Creation of the summary categories allowed us to examine participants’ responses in a way that minimized any effect of residents offering different numbers of descriptions.

In 2014–2015, interviews were audio-recorded using a small unobtrusive digital recorder. The interviews were then transcribed, and the transcription checked for accuracy by a member of the study team who did not create the transcription. Then, two coders utilizing the 1995–1996 codebook independently coded participants’ responses. Inter-rater agreement was calculated and was acceptable: pooled Kappa statistic was 0.74 (De Vries, Elliott, Kanouse, & Teleki, 2008). After completion of the coding, a third study team member resolved any coding discrepancies. The 2014–2015 behaviors were then re-categorized into the six summary categories following the same procedure as that used in 1995–1996.

**Demographic Characteristics:** In the 1995–1996 study, participants self-reported their age, length of residence in the neighborhood, whether they were employed (dichotomized yes/no), and the last grade completed in school (dichotomized as less than high school vs. high school or more). Family poverty status (categorized as above the poverty threshold, below the poverty threshold, or unknown/missing) was determined by using participant-reported total family income from the previous year, the total number of household occupants, and the equivalent U.S. census-based federal poverty thresholds (U.S. Census Bureau, 2017). Participant gender (female, male) and race (African American, European American, Hispanic/Latino, Asian American, Native American, Unsure/Other) were observed and recorded by the interviewer.

The 2014–2015 survey utilized the same demographic items, except that participant gender, race, and ethnicity were self-reported from a list of categories provided by the interviewer: e.g., gender identified as male or female; race identified as African American, White/European American, American Indian, Asian, and Native Hawaiian/Pacific Islander, Bi- or Multi-racial; and ethnicity identified as Hispanic or non-Hispanic. Responses were recoded using the categories from 1995–1996. For analytical purposes, categories other than African American, and White/European American were small and were, therefore, combined to one category referred to as ‘other.’

**Neighborhood Structural Characteristics:** To explore the effects of neighborhood characteristics on maltreatment descriptions, four census tract-level variables were used for each study neighborhood at both time points, based on data obtained from the Northeast Ohio Community and Neighborhood Data for Organizing (NEO CANDO, 2017), a free, publicly accessible social and economic data system maintained by the Center on Urban Poverty and Community Development at Case Western Reserve University. The specific variables were: (1) the child maltreatment investigation rate, measured as the number of children investigated for maltreatment per 1000 population under 18 years of age; (2) the Supplemental Nutrition Assistance Program (SNAP) participation rate, measured as the percentage of children whose families received benefits (an indicator of poverty); (3) the violent crime rate, measured as the count of violent crimes (Part 1 Uniform Crime Reporting) per 100,000 population; and (4) the illicit drug offense rate (possession, trafficking), measured as the number of offenses per 100,000 population. For maltreatment investigations and SNAP receipt rates, 3

yearly rates (1993–1995, and 2013–2015, respectively) were averaged to reduce the effect of an anomalous year. Two-year averages (1993–1994, and 2013–2014) were used for the violent crime and drug offense rates (2015 data were unavailable). To better assess non-linear associations involving these characteristics, rates were divided into terciles (equal thirds) and the tercile for each characteristic was used in the statistical modeling (see below).

## 2.4. Analysis

**Univariate Analyses:** For each time point, averages and standard deviations or medians and corresponding interquartile ranges (IQR, expressed as 25<sup>th</sup> percentile, 75<sup>th</sup> percentile) were used to summarize continuous variables. Percentages were used to summarize categorical variables. Sample characteristics were compared across time points using chi-square or t-tests. To determine rank order, the median number of participants per neighborhood who mentioned the action was calculated and then expressed as a percentage (median value divided by the number of neighborhoods, or 20). The actions were then ranked using the median percentages. In cases when medians were equal, the IQR was then considered. Because the data were clustered by study neighborhood at each time point and paired (by neighborhood), two-tailed Wilcoxon Signed-Ranks Tests (non-parametric test for repeated measures, akin to the parametric paired t-test) were used to determine whether median percentages of residents per neighborhood mentioning a specific maltreatment behavior (or summary maltreatment category) changed significantly over time across the neighborhoods. In these analyses, the unit of analysis was the neighborhood ( $n = 20$ ).

**Multivariate Analyses:** For each summary maltreatment category, a logistic regression model was used to assess potential differences across study year in participant's elicitation of at least one maltreatment example within the category. In these analyses, the unit of analysis was the individual participant ( $n = 800$ ). The dependent variable was binary and measured whether or not (1 = yes, 0 = no) the participant mentioned an example of maltreatment within the given category. Study year of survey participation was entered into the model as a binary variable (0 = 1995–1996; 1 = 2014–2015). Inclusion of covariates in the model allowed us to adjust for individual and neighborhood characteristics particular to each time period: e.g., caregiver age, gender, race, tenure in the neighborhood, education, and poverty status; neighborhood rates of SNAP uptake, violent crime, illicit drug offenses, and maltreatment investigations. These characteristics were selected because it seemed possible that they might influence caregivers' perceptions about maltreatment. Additionally, because this was essentially a repeated cross-sectional design, a major consideration was accounting for the fact that at each time point participants were clustered in census tracts. Thus, the variance of error terms was allowed to vary by census tract, in effect adjusting for clustering of participants within census tracts (Rogers, 1993). Multi-level analyses, an alternative approach to account for participants nested in neighborhoods, provided results consistent with the logistic regression model adjusted for clustering of standard errors. However, intraclass correlation coefficients were low (inadequate supervision = 0.02, physical abuse = 0.06, emotional abuse = 0.01; parental misbehavior = 0.05), and the neglect and sexual abuse models failed to converge, likely because of extremely small coefficients or the more rigorous assumptions and computational demands of multi-level modeling compared to clustering-of-standard-errors approaches (Primo, Jacobsmeier, & Milyo, 2007). Individual level coefficients were similar across both models. Results were expressed as adjusted odds ratios (AORs) and corresponding 95% confidence intervals (CIs). Statistical modeling was conducted in Stata version 13. Statistical significance was set at alpha equal to 0.05.

## 3. Results

### 3.1. Sample characteristics

The total (i.e., treating the sample as a single group of 400 participants) 1995–1996 sample was largely female (82.0%), with an average age of 34.1 (SD = 9.5) years (Table 1). Most participants were African-American (54.8%), followed by White (36.3%), and “other” 9.0%. Participants had lived at their current residence for an average of 10.7 (SD = 11.0) years. Nearly three quarters of participants had completed a high-school education or more. Nearly two-thirds were living in families below the federal poverty line.

Compared to the 1995–1996 total sample, the 2014–2015 total sample was similar in the percentage of females, percentage of participants employed, percentage of participants living in families below the poverty level, and length of residence in the neighborhood (Table 1). However, the 2014–2015 sample was slightly older (37.6 years, SD = 11.4), had a smaller proportion of individuals across neighborhoods who reported their race as “White” (23.8%), a greater percentage of participants whose self-identified ethnicity was categorized as “other” (15.8%, most self-identifying as “bi or multi-racial”), and had a greater percentage who had completed high school or more (79.7%). Comparisons of sample characteristics on a neighborhood level ( $n = 20$  neighborhoods) generally mirrored the differences observed in the total sample comparisons, except that only two significant differences in neighborhood characteristics were observed: a greater percentage of children receiving SNAP and a higher maltreatment investigation rate in 2014–2015 compared to 1995–1996.

### 3.2. Specific behaviors – univariate analyses

A total of 1413 specific behaviors (median = 3.0, IQR = 3, 4) was generated in 1995–1996 and 1526 (median = 3.0, IQR = 3,4) in 2014–2015. Comparison of the median percentage of participants per neighborhood who mentioned a behavior showed substantial consistency in rank of the ten most frequently cited behaviors across the two time points even when the median percentage of some behaviors significantly changed over time (Tables 2 and 3). For example, inadequate provision of food was the most frequently



**Table 2**  
Top Ten Individual Child Maltreatment Actions 1995–1996 vs. 2014–2015 (n = 20 neighborhoods).

1995-1996			2014-2015		
Rank	Action	Median % (IQR)	Rank	Action	Median % (IQR)
1	Inadequate food	50.0 (45.0, 60.0)	1	Inadequate food	65.0 (60.0, 70.0)
2	Beating child	32.5 (25.0, 35.0)	2	Lack of cleanliness	25.0 (16.3, 30.0)
3	Lack of supervision	20.0 (15.0, 33.8)	3	Beating child	20.0 (16.3, 35.0)
4	Lack of cleanliness	20.0 (15.0, 25.0)	3	Denigrating child	20.0 (15.0, 33.8)
5	Leaving child alone	17.5 (11.3, 25.0)	5	Lack of supervision	20.0 (15.0, 28.8)
6	Denigrating child	15.0 (12.5, 25.0)	6	Leaving child alone	20.0 (11.3, 25.0)
7	Hitting child	15.0 (10.0, 23.8)	7	Hitting child	20.0 (10.0, 25.0)
8	Ignoring child	12.5 (6.3, 15.0)	8	Leaving mark on child	15.0 (10.0, 25.0)
9	Sexual abuse	10.0 (6.3, 15.0)	8	Insufficient clothing	15.0 (11.3, 15.0)
9	Generalized physical abuse	10.0 (5.0, 18.8)	10	Ignoring child	12.5 (5.0, 18.8)
Actions below moved out of or into Top Ten Across Time Points					
11	Leaving mark on child	10.0 (5.0, 15.0)	14	Sexual abuse	10.0 (1.3, 15.0)
11	Insufficient Clothing	10.0 (5.0, 15.0)	25	Generalized physical abuse	0 (0, 5.0)

IQR = Interquartile Range (25<sup>th</sup> percentile, 75% percentile).

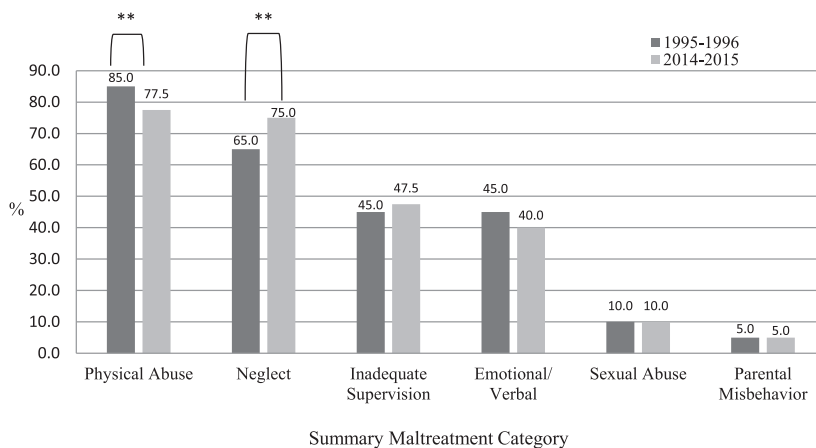
**Table 3**  
Frequency of Child Maltreatment Actions 1995 vs. 2015 (n = 20 neighborhoods).

Action	Median % (IQR) 1995-1996	Median % (IQR) 2014-2015	Wilcoxon Z	P value
Inadequate food	50.0 (45.0, 60.0)	65.0 (60.0, 70.0)	-3.112	.002
Beating child	32.5 (25.0, 35.0)	20.0 (16.3, 35.0)	-2.573	.010
Lack of supervision	20.0 (15.0, 33.8)	20.0 (15.0, 28.8)	-.241	.810
Lack of cleanliness	20.0 (15.0, 25.0)	25.0 (16.3, 30.0)	-2.106	.035
Leaving child alone	17.5 (11.3, 25.0)	20.0 (11.3, 25.0)	-.164	.870
Denigrating child	15.0 (12.5, 25.0)	20.0 (15.0, 33.8)	-1.756	.079
Hitting child	15.0 (10.0, 23.8)	20.0 (10.0, 25.0)	-1.430	.153
Ignoring child	12.5 (6.3, 15.0)	12.5 (5.0, 18.8)	-.154	.877
Sexual abuse	10.0 (6.3, 15.0)	10.0 (1.3, 15.0)	-1.068	.285
Generalized physical abuse	10.0 (5.0, 18.8)	0 (0, 5.0)	-3.550	< .001
Leaving mark on child	10.0 (5.0, 15.0)	15.0 (10.0, 25.0)	-2.654	.008
Insufficient Clothing	10.0 (5.0, 15.0)	15.0 (11.3, 15.0)	-2.305	.021

IQR = Interquartile Range (25<sup>th</sup> percentile, 75% percentile).

mentioned maltreatment behavior at each time point (Table 2) and also significantly increased from 50.0% in 1995–1996 to 65.0% in 2014–2015 (Table 3). Beating a child was the second most frequently mentioned action in 1995–1996 at 32.5%, but the median percentage of persons mentioning this action significantly decreased to 20.0% in 2014–2015, and it dropped in rank to 3. “Lack of cleanliness” which ranked fourth in 1995–1996 with a median percentage of 20%, climbed to a rank of 2 in 2014–2015, a statistically significant 5% increase in the median percentage of persons per neighborhood mentioning this form of maltreatment. The remaining “top ten” behaviors identified in 1995–1996 were generally at a similar rank in 2014–2015 and within 5 percentage points of their 1995–1996 frequency. For example, “lack of supervision” ranked third at 20.0% in 1995–1996, and remained at 20.0% in 2014–2015, but dropped to fifth; “hitting a child” ranked seventh at both time points and increased from 15.0% to 20.0%; “ignoring a child” was eighth at 12.5% in 1995–1996, and remained at 12.5% in 2014–2015, but dropped to tenth.

Other “top ten” behaviors in 1995–1996 substantially changed rank in 2014–2015. “Sexual abuse,” tied for ninth with a median percentage of 10.0% in 1995–1996, remained at 10.0% in 2014–2015, but dropped out of the top ten rankings to thirteenth. Similarly, “generalized physical abuse” (i.e., participant responded to the question with “physical abuse” but provided no further explanation), tied for ninth at 10.0% in 1995–1996 but decreased significantly to a median percent of 0 and dropped out of the top ten to twenty-third in 2014–2015. Moreover, two lower-ranked actions in 1995–1996 appeared in the top ten ranking in 2014–2015:



\*\* p < .01

Fig. 1. Median Percentage of Participants Per Neighborhood Identifying Maltreatment, 1995–1996 vs. 2014–2015 (n = 20 neighborhoods).

“leaving a mark on a child” significantly increased in frequency across the two time points and rose in rank from eleventh in 1995–1996 to eighth in 2014–2015; “insufficient clothing,” tied for eleventh in 1995–1996 at 10%, but tied for rank 8 and significantly increased to 15.0% in 2014–2015.

### 3.3. Summary maltreatment categories – univariate analyses

Concerning the summary maltreatment categories (Fig. 1), in 1995–1996 a behavior involving physical abuse was the most frequently provided response (a median of 85.0%, IQR 75.0, 93.8 of participants per study neighborhood mentioned this type of behavior), followed by neglect (65.0%, IQR = 60.0, 70.0), inadequate supervision (45.0%, IQR = 35.0, 55.0), psychological/emotional abuse (45.0, IQR = 35.0, 50.0), sexual abuse (10.0%, IQR = 6.3, 15.0), and parental misbehavior (5.0, IQR = 0, 10.0). Comparison of the summary categories over time revealed: (1) a significant decrease in the median proportion of participants per neighborhood identifying a physical abuse behavior and a significant increase in identifying a behavior of neglect (Fig. 1). No significant differences over time were observed for the remaining summary categories. Overall, the rank order of the categories remained remarkably consistent nearly twenty years later.

### 3.4. Summary maltreatment categories – multivariate analyses

After adjusting for the effects of individual and neighborhood characteristics and resident clustering in neighborhoods, two temporal changes in maltreatment descriptions were observed. Participating in the 2014–2015 study was associated with a 51% increase in the odds of identifying a neglect action, on average, compared to those participating in the 1995–1996 study: AOR (adjusted odds ratio) = 1.51, 95%CI = 1.03–2.21 (Table 4). Second, participating in the 2014–2015 study was associated with a 39% decrease in the odds of providing a physical-abuse action, compared to persons participating in the 1995–1996 study: AOR = 0.61, 95%CI = 0.38–0.98.

Concerning the association of maltreatment description with participants’ individual characteristics, older age (AOR = 0.98, 95%CI = 0.96–1.00), African American race (AOR = 0.44, 95%CI = 0.26–0.74) or other race (AOR = 0.52, 95%CI = 0.27–0.99) were associated with decreased odds of mentioning an act of physical abuse. Female gender was associated with 37% decreased odds of mentioning an act of neglect compared to male gender (AOR = 0.63, 95%CI = 0.42–0.95). Being employed was linked to 47% increased odds of mentioning a lack of supervision (AOR = 1.47, 95%CI = 1.09–2.00) compared to being unemployed, and a longer length of residence in a neighborhood was associated with a 2% decrease in the odds of mentioning emotional neglect (AOR = 0.98, 95%CI = 0.97–0.99).

Concerning neighborhood characteristics, the most consistently associated type of maltreatment was sexual abuse. Compared to the lowest tercile of neighborhood poverty (as reflected by SNAP rates), those living in the highest tercile of poverty had over twice the odds (AOR = 2.05, 95%CI = 1.08–3.90) of mentioning an act of sexual abuse. Similarly, participants living in neighborhoods with elevated drug offense rates had greater odds of identifying an action of sexual abuse than did those living in the lowest tercile of drug offense rates: for third tercile AOR = 1.88, 95%CI = 1.03–3.44; for second tercile AOR = 1.80, 95%CI = 1.12–2.91. However, residence in neighborhoods with higher rates of maltreatment investigations was associated with 53–68% decreased odds of mentioning sexual abuse: AOR = 0.47, 95% CI 0.24–0.90 for second tercile; AOR = 0.32, 95%CI = 0.13–0.79 for third tercile. Residence in the highest (third) tercile of maltreatment investigation rate was associated with nearly three times the odds of a participant mentioning an act of parental misbehavior as an example of maltreatment: AOR = 2.73, 95%CI = 1.12–6.64.

**Table 4**

Logistic regression model results: relationship between study year and adjusted odds of residents mentioning a type of child maltreatment (n = 799).

	Type of Maltreatment					
	Inadequate Supervision	Physical	Emotional	Neglect	Parental Misbehavior	Sexual
	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)
Study Year 2015 (1995 as ref)	0.95 (0.57, 1.60)	0.61* (0.38, 0.98)	1.17 (0.77, 1.78)	1.51* (1.03, 2.21)	0.53 (0.22, 1.30)	0.90 (0.52, 1.57)
<b>Individual Characteristics</b>						
Age	0.99 (0.97, 1.00)	0.98* (0.96, 1.00)	1.00 (0.99, 1.02)	1.00 (0.98, 1.02)	1.02 (0.99, 1.04)	1.01 (0.99, 1.02)
Race (White as ref)	1.01	0.44**	0.90	1.29	0.50	0.99
African American	(0.77, 1.34)	(0.26, 0.74)	(0.61, 1.32)	(0.89, 1.87)	(0.22, 1.13)	(0.66, 1.49)
Other Race	1.11 (0.64, 1.93)	0.52* (0.27, 0.99)	0.88 (0.50, 1.57)	1.00 (0.54, 1.87)	0.75 (0.26, 2.16)	1.15 (0.42, 3.20)
Female Gender (male as ref)	0.98 (0.70, 1.36)	0.95 (0.66, 1.36)	1.18 (0.75, 1.86)	0.63* (0.42, 0.95)	1.76 (0.90, 3.43)	1.29 (0.76, 2.21)
Neighborhood Tenure (years)	0.99 (0.98, 1.00)	1.00 (0.99, 1.02)	0.98** (0.97, 0.99)	1.01 (0.99, 1.02)	1.00 (0.97, 1.02)	1.00 (0.98, 1.02)
Family Income (unknown/missing as ref)	1.14	0.99	1.00	0.70	0.94	0.65
Below poverty threshold	(0.80, 1.62)	(0.64, 1.55)	(0.73, 1.36)	(0.47, 1.04)	(0.52, 1.72)	(0.39, 1.07)
Above poverty threshold	1.95 (0.87, 4.35)	1.10 (0.36, 3.39)	0.73 (0.24, 2.19)	0.51 (0.19, 1.34)	Not estimated <sup>a</sup>	1.04 (0.33, 3.29)
Employed	1.47* (1.09, 2.00)	1.40 (0.89, 2.22)	1.09 (0.79, 1.51)	1.09 (0.69, 1.72)	0.59 (0.34, 1.02)	0.74 (0.41, 1.35)
HS education or more (below HS as ref)	0.98 (0.75, 1.27)	1.15 (0.76, 1.74)	1.13 (0.83, 1.54)	1.19 (0.90, 1.58)	1.35 (0.72, 2.55)	1.20 (0.74, 1.97)
<b>Neighborhood Characteristics</b>						
SNAP Rates (First Tercile as ref)	1.22	0.91	0.70	1.17	1.72	0.89
Second Tercile	(0.74, 2.01)	(0.42, 2.00)	(0.45, 1.09)	(0.76, 1.81)	(0.67, 4.43)	(0.54, 1.48)
Upper Tercile	1.28 (0.73, 2.27)	0.88 (0.41, 1.87)	0.62** (0.46, 0.82)	1.22 (0.70, 2.12)	1.24 (0.47, 3.24)	2.05* (1.08, 3.90)
Crime Rates (First Tercile as ref)	0.96	0.71	1.12	0.83	0.68	1.27
Second Tercile	(0.67, 1.38)	(0.42, 1.20)	(0.76, 1.65)	(0.54, 1.29)	(0.26, 1.82)	(0.82, 2.00)
Upper Tercile	1.17 (0.76, 1.78)	0.92 (0.50, 1.71)	1.10 (0.71, 1.70)	0.81 (0.51, 1.30)	0.57 (0.22, 1.48)	1.49 (0.78, 2.83)
Drug Rates (First Tercile as ref)	0.69	1.01	1.14	0.95	1.35	1.80*
Second Tercile	(0.41, 1.16)	(0.57, 1.77)	(0.83, 1.56)	(0.59, 1.52)	(0.59, 3.07)	(1.12, 2.91)
Upper Tercile	0.75 (0.51, 1.09)	0.88 (0.50, 1.56)	1.20 (0.74, 1.95)	1.20 (0.80, 1.81)	1.35 (0.43, 4.21)	1.88* (1.03, 3.44)
Maltreatment Investigation Rates (First Tercile as Ref)	1.18	1.46	0.85	1.12	1.75	0.47*
Second Tercile	(0.66, 2.10)	(0.84, 2.55)	(0.56, 1.28)	(0.75, 1.67)	(0.68, 4.49)	(0.24, 0.90)
Upper Tercile	1.13 (0.60, 2.12)	1.46 (0.60, 3.52)	0.75 (0.48, 1.17)	1.33 (0.86, 2.06)	2.73* (1.12, 6.64)	0.32* (0.13, 0.79)
Pseudo R <sup>2</sup>	0.02	0.05	0.02	0.03	0.05	0.05

Note: \* p < .05, \*\* p < .01; results adjusted for resident clustering in neighborhoods.

Abbreviations: CI = confidence interval, Drug = illicit drug offenses, HS = high school, Ref = reference, AOR = adjusted odds ratio, SNAP = Supplemental Nutrition Assistance Program.

<sup>a</sup> AOR and 95% confidence interval uncalculated because no participants with unknown/missing (i.e., “refused/don’t know”) family income - from which poverty status was derived - provided a behavior classified as parental misbehavior. The AOR is thereby calculated with poverty status as a binary variable (below or above poverty status), with above poverty status as the reference category (n = 775).

#### 4. Discussion

Family members, friends, neighbors, or community members are on the front lines of everyday home and residential settings, observing and (potentially) determining whether behaviors directed towards children should be reported to child protection services. They account for approximately one-fifth of maltreatment reports and can have an important effect on changing patterns of child abuse and neglect. To the best of our knowledge, this is the first study to examine temporal changes in urban caregivers’ descriptions of child maltreatment. Overall, findings revealed both change and consistency over a nearly 20 year-period in the type of actions caregivers provided as examples of child abuse and neglect. Results adjusted for the effects of individual and neighborhood characteristics and resident clustering revealed a significant increase in the odds of the 2014–2015 participants mentioning an action of neglect, a significant decrease in the odds of mentioning an act of physical abuse, and no observed change in inadequate supervision, emotional or verbal abuse, sexual abuse, and parental misbehavior.



There are likely multiple reasons for these changes over time. Concerning the observed temporal increase in mentioning neglect, it might seem reasonable to attribute the increase at least in part to the devastation to families caused by the Great Recession of 2008, which occurred between the two study time points; recovery in the Cleveland area has lagged behind other areas. However, participants' family-poverty status and residence in a poor neighborhood (as reflected by SNAP rates) were not associated with mentioning neglect. Perhaps the 2008 recession increased salience of this maltreatment type throughout greater Cleveland regardless of one's individual circumstances.

Given the overall findings in the literature on child sexual abuse being consistently identified as a severe form of maltreatment (Portwood, 1999; Bensley et al., 2004; Dhooper et al., 1991; Fakunmoju et al., 2013; Ferrari, 2002; Maiter, Alaggia, & Trocme, 2004; Pierce & Bozalek, 2004; Portwood, 1998), we were intrigued that residents' identification of sexual abuse as an example of child abuse and neglect actually decreased in rank between 1995 and 2015. The reasons for this decline are unclear. Perhaps sexual abuse has gained such notoriety that it is now viewed by residents' as a unique construct, distinct from "child abuse and neglect," similar to how inadequate supervision, while a form of neglect in official discourse (e.g., Hymel & the Committee on Child Abuse & Neglect, 2006), seemed to be a separate construct among residents (Korbin & Coulton, 1995, 1997). Also, other factors might be involved. For example, in the 1990s, topics related to sexual abuse – e.g., sexual abuse in daycare facilities, satanic ritual abuse, and issues related to repressed memories – received substantial mass-media attention (see De Young, 2004; Jenkins, 2004; Ofshe, 1994). Perhaps such coverage made sexual abuse more salient during this time period compared to 2014–2015. On the other hand, there has also been substantial local, national, and international media attention directed at sexual abuse scandals involving religious organizations (e.g., Associated Press, 2007; Briggs, 2001; Carroll, Pfeiffer, & Rezendes, 2002; Yardley, 2002) and a major U.S. university (Ganim, 2011) that occurred between the two study time points. The extent to which mass media attention drives persons' conceptualization of maltreatment would be a fruitful area of future research.

In other adjusted analyses, observed associations between the maltreatment summary categories and individual and neighborhood characteristics were generally scattered and did not follow discernable patterns, rendering interpretation of the associations problematic. Concerning the association between employment and greater odds of mentioning inadequate supervision, perhaps participants who were employed are familiar with the challenges of supervising or arranging for supervision of their children; thus, inadequate supervision is a more salient form of maltreatment. Sexual abuse was the summary maltreatment category most associated with covariates, and was associated only with neighborhood characteristics: neighborhoods with elevated SNAP and drug offense rates, but with the lowest maltreatment investigation rates. The scientific literature has linked parental substance abuse with sexual abuse (Doidge, Higgins, Delfabbrod, & Segal, 2017; Institute of Medicine & National Research Council, 2013; Wells, 2009). Such associations may be particularly salient to residents of neighborhoods with elevated drug offense rates. That said, it is also possible that the observed odds ratios for both sexual abuse and parental misbehavior were artifacts of the relatively small number of participants who mentioned these forms of maltreatment, 11% and 7%, respectively.

Study limitations should be noted. First, the sample consisted of mainly African American and White female parents residing in an urban setting, so results may not be generalizable to non-parent adults, male caregivers, adults in rural settings, or racial/ethnic groups under-represented in our sample, all of whom may report suspected maltreatment to child protective services. A second limitation involves the method used to elicit maltreatment descriptions. Asking participants to generate actions they consider to be maltreatment avoids the potential restriction created by use of a pre-defined (by investigator) list of behaviors as discussed above. Nevertheless, asking an open-ended question leaves the reasons why participants identified specific actions unclear. It is not known, for example, whether caregivers identified the most important, the most salient, or simply the first behavior that came to mind. Moreover, the fact that a participant does not mention a specific action cannot be construed to signify that the participant considers the action as non-maltreating. This is a common issue in design of fixed versus open-ended research questions and proper interpretation of the elicited response. A third limitation is that although interviewers received similar training at both time points, it is possible that observed differences might be due in part to interviewer effects, such as the use of probing or follow-up questions. At both time points, teams met regularly to discuss survey implementation, troubleshoot issues, and engage in re-training as necessary, in order to minimize these effects as much as possible. A fourth limitation is the lack of inter-rater reliability for the 1995–1996 survey. Finally, as a repeated cross-sectional study, the sample consisted of two groups of caregivers, with each group experiencing a specific historical period. Characteristics of each time period unmeasured in our study might have influenced study participants' responses in unknown ways: i.e., the cohort effect. Indeed, the pseudo- $r^2$  values for the logistic regression models, though more difficult to interpret than  $r^2$  values from ordinary-least-squares regression, would indicate only modest predictive ability of the variables in the logistic regression models. Identifying the extent to which broader aspects of the social context in which parents live – e.g., media attention to maltreatment-related issues, legislation and policy around maltreatment, economic downturns – influence parents' perceptions about maltreatment would be a fruitful area of future research.

Concerning the practice implications of our findings, the scant knowledge in the field regarding how defining maltreatment is linked to actual reporting behavior renders delineation of practice implications challenging. Study results showing that maltreatment descriptions vary by individual and neighborhood characteristics may suggest that child-welfare workers should become familiar with caregiver and neighborhood norms where they investigate maltreatment, so they may gain greater understanding of how caregivers may choose to report perceived instances of child abuse and neglect.

In conclusion, our study found both change and consistency in descriptions of child maltreatment between two time points in the same geography 20 years apart. Additional longitudinal research is needed to more completely assess the role caregivers' descriptions may play in reporting behaviors and changes in that behavior over time. Future research should also include non-parental adults, as these individuals may also make reports to child protective services, and also consider simultaneous, complementary use of open-ended and fixed-format methods. Such an approach would allow investigators to profit from the advantages of each method, and

thereby develop a more comprehensive understanding of how caregivers perceive child maltreatment.

### Conflicts of interest

None.

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### Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.chiabu.2018.05.020>.

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