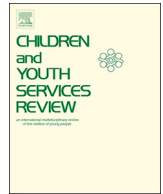




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## Why does child maltreatment occur? Caregiver perspectives and analyses of neighborhood structural factors across twenty years

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### ABSTRACT

Research on caregivers' views of factors that contribute to child maltreatment and analyses of neighborhood structural factors offer opportunities for enhancing prevention and intervention efforts. This study compared explanations of the factors that contribute to child maltreatment in a neighborhood-based sample of adult caregivers at two-time points: 1995–1996 and 2014–2015 along with analyses of neighborhood structural conditions during the same period. The study sample consisted of two cross-sectional subsamples: 400 adult caregivers in 20 census tracts in Cleveland, Ohio from a 1995–1996 study, and 400 adult caregivers of the same 20 census tracts surveyed in 2014–2015. At each time point, residents were asked to rate how much each of 13 factors contributes to child abuse and neglect. Median regression analyses adjusted for individual and neighborhood characteristics showed that “lack of religion” decreased somewhat in importance over time, while that of “single parents” increased slightly. Otherwise, there was substantial consistency in caregivers' perceptions of factors contributing to maltreatment over the two study points. In terms of overall ranking, at each time point the most important contributors to child maltreatment were “drugs,” “alcohol,” and “psychological or emotional problems,” while the least important were “divorce,” “single parents,” and “lack of religion.” Differences in ratings of contributing factors were associated with individual and neighborhood characteristics, most consistently by participant race and age and by neighborhood maltreatment investigation rate. Despite these differences, for any maltreatment prevention or intervention effort using or planning to use maltreatment etiology in some way in its activities, etiology seems to represent a fairly stable platform for programming.

### 1. Introduction

Although community-level approaches to preventing child maltreatment have shown promise in multiple settings (McCroskey, Pecora, Franke, Christie, & Lorthridge, 2012; McDonell, Ben-Arieh, & Melton, 2015; McLeigh, McDonell, & Melton, 2015), gaining full engagement of community residents in interventions to prevent child maltreatment has proven challenging. Why? One possibility is that efforts at resident engagement may be hampered by not fully accounting for community perspectives on the factors contributing to maltreatment. For example, if an intervention based on an individual psychopathology causative model is implemented in a community where most residents attribute maltreatment to poverty, the resulting mismatch may reduce the

intervention's effectiveness. Views of the factors contributing to maltreatment also may influence the lay public's reporting behaviors in as yet poorly understood ways. The failure to understand communities' views on etiology may contribute to missteps and delays in achieving high levels of participation in community prevention strategies.

It is also important to recognize that communities may change over time in their views of factors contributing to child maltreatment. Media reports on child maltreatment cases or more general public information on parenting or social problems can change perceptions. Also, views of factors contributing to maltreatment may be affected by individual's socio-economic status and cultural background. Since residential turnover is a continuous process in communities, changing characteristics of resident and caregiver populations may contribute to changing views of

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causation. Thus, neighborhood-level child protection practices might be operating under outdated assumptions of residents' perceptions.

In order to investigate stability and change in residents' views of factors contributing to child maltreatment, we build upon a study that took place in Cleveland neighborhoods 20 years ago (Korbin, Coulton, Lindstrom-Ufuti, & Spilsbury, 2000). The purpose of the current study is to (a) determine whether the factors perceived to contribute to the incidence of child maltreatment changed over this twenty-year period; and (b) investigate the association of individual and neighborhood characteristics with the relative importance of factors contributing to child maltreatment. In addition, because of the mixed methods nature of the study, we compare neighborhood resident caregivers' views with those obtained in analyses of aggregate-level data.

## 2. Background

The scientific literature exploring lay-public perceptions of the causes of maltreatment is scant and scattered across a range of cultural groups. Dhooper, Royse, & Wolfe, (1991) examination of general-public perceptions of “characteristics of abusers” in Kentucky pointed to person-based contributory factors such as stress, experience of abuse as a child, emotional immaturity, and mental illness. However, it should be noted that enquiring specifically about characteristics of abusers a priori situates the “locus” of cause on individuals. Research on Palestinian social-science undergraduates' perspectives on risk factors for maltreatment implicated parental characteristics such as drug or alcohol addiction, marital problems, not loving a child, and emotional immaturity (Haj-Yahia & Shor, 1995; Shor & Haj Yahia, 1996). Simarra, de Paúl, and San Juan (2002) reported that a sample of Colombian, general-population adults indicated that the socio-economic context and parental characteristics were more important factors than child characteristics or child-parent relationship characteristics in causing maltreatment. Most recently, Calheiros (2013) identified four major factors underlying Portuguese parents' perceptions of maltreatment's causes, which she labeled as “ontogenic” (parent psychological/emotional problems, history of abuse in one's childhood), “interactionist” (child characteristics, stress arising from and brought into the child-parent interaction), “cultural” (parental rights over children, lack of knowledge about how to raise children in non-maltreating ways), and “context and social insertion” (parents' education and integration into society). Calheiros reported that most parents endorsed the “cultural” and “context and social insertion” factors, rejected the “interactionist” factor, and were ambivalent about the “ontogenic” factor.

In an earlier study in Cleveland, Ohio conducted by our group (Korbin et al., 2000), we reported four main factors underlying neighborhood residents' views on what contributes to child maltreatment: poverty/family structure, substance abuse/stress, lack of moral values, and individual pathology (e.g., psychological problems). Moreover, these four factors were related to specific neighborhood structural characteristics, resident demographics, and perceptions of neighborhood conditions. For example, neighborhood-level impoverishment was negatively associated with lack of family values as a contributory factor. On an individual level, male residents were more likely than female residents to endorse poverty/family structure as contributing to maltreatment; residents with higher family income, high-school graduates and unmarried persons were more likely to endorse a lack of moral values as contributing to maltreatment.

Although these studies contribute to our understanding of public perspectives on child maltreatment, they face certain limitations. First, the degree to which results of a specific study are applicable to populations in other social and cultural settings is unclear. Second, one methodological limitation of all existing studies is that they are cross-sectional in nature, revealing perceptions held at a single time point. The degree to which lay-public perceptions about maltreatment's etiology may change over time is unknown. Changes to Cleveland's demographic and socio-economic profile over time may have

influenced public perceptions about maltreatment's etiology in yet unclear ways. To address this gap in understanding, we report the results of a comparison of etiological explanations of maltreatment in a neighborhood-based sample of adult residents at two time points: 1995–1996 and 2014–2015.

In addition to viewing change across time periods, caregivers' views on factors contributing to child maltreatment can be considered in light of aggregate analyses of structural factors contributing to child maltreatment.

## 3. Methods

### 3.1. Data and sample

Study data derive from two studies: one conducted in 1995–1996 (Neighborhood and Household Factors in the Etiology of Child Maltreatment, #90CA1548) and the second conducted in 2014–2015 (Cleveland Neighborhood Factors and Child Maltreatment: A Mixed-Methods Study grant R01HD077002). Each study included cross-sectional examination of neighborhood caregivers' ratings of the degree to which a range of factors contribute to maltreatment. The data collected from these two studies thereby afforded the opportunity to investigate changes in these contributors to maltreatment in the same geographies over a twenty-year period.

The study sample consisted of two cross-sectional subsamples: 400 adult caregivers of 20 census tracts in Cleveland, Ohio from the 1995–1996 study, and 400 adult caregivers of the same 20 census tracts surveyed in 2014–2015. All participants were caregivers of at least one child 17 years of age or younger living in the household (see below). The sampling method at each time point has been explained previously (Spilsbury et al., 2018) and is described below.

*1995–1996:* Using a 2-stage strategy, neighborhoods were selected initially, followed by caregivers within each neighborhood (Korbin & Coulton, 1999). To select neighborhoods, all 196 Cleveland residential census tracts were stratified on 3 factors strongly associated with child maltreatment: impoverishment, child care burden, and whether they were predominately African-American, White, or of mixed ethnicity (Coulton, Korbin, Su, & Chow, 1995). After dichotomizing factors at their means to create strata, 20 tracts were randomly selected representing each stratum. A randomly selected U.S. census-defined block group within each tract served as the neighborhood unit. To identify caregivers, 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 a “starting point” address randomly chosen on each street. Interviewers began at the starting point and contacted every third household. Households were excluded from the study only after interviewers made three additional visits at different times of day and different days of the week without speaking to a resident. Eligibility criteria at each time point consisted of: 18 years of age or older; the parent or guardian of at least one child 17 years of age or younger living in the home; ability to understand English. One adult per household participated.

Interviewers approached 2448 occupied housing units. Interviewers were able to speak with an adult in 2098 households (85.7%). Of the 2098 households contacted, 1399 (66.7%) reported no child 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 inclusion criteria and a parent or guardian in each household completed the interview.

*2014–2015:* Interviewers returned to the same domiciles that had participated in the previous study to determine if there was an eligible adult to participate (same criteria as earlier study). Using this

location as a starting point, interviewers initially contacted every third household in a predetermined, randomized order. However, because of numerous housing unit vacancies, likely a result of the 2008 recession, or absence of children, streets within each block group were instead randomly ordered, an address 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. A total of 6295 occupied housing units were approached, and interviewers spoke with an adult in 5008 of the units (79.5%). Of the contacted homes, 4064 (81.2%) reported no children in the household, 482 (9.6%) refused to participate, and 42 (0.8%) did not speak English. A total of 420 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) who met inclusion criteria and 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.

### 3.2. Measures

#### 3.2.1. Contributors to maltreatment

At both time points, as part of a larger interview about neighborhood conditions, child rearing, and child maltreatment (see [Korbin & Coulton, 1999](#)), participants rated the contribution of each of 13 items to maltreatment on a scale of 1 (contributes nothing) to 10 (contributes a lot). The 13 items were: “drugs,” “alcohol,” “stress,” “poverty,” “unemployment,” “divorce,” “single parents,” “teen parents,” “lack of family values,” “lack of religion,” “abuse or neglect in parents' own childhoods,” “psychological or emotional problems,” and “lack of knowledge about raising children.” Items were originally identified both from the literature representing theories about maltreatment's causes ([National Research Council, 1993](#)) and from earlier ethnographic research in Cleveland neighborhoods ([Korbin & Coulton, 1994](#)). At both time points, interviewers consisted of social-science graduate and undergraduate students trained by the study investigators.

#### 3.2.2. Demographic characteristics

In the 1995–1996 study, participants self-reported age, categorized as 18–29 years, 30–59 years, and 60 years or older; last grade completed in school dichotomized as less than high school (or equivalent) versus high school or more; number of children 0–17 years of age and adults (18 years or older) living in the household; length of residence in the neighborhood; and employment status, dichotomized as employed or not employed; and annual family income. Poverty status (above or below the poverty threshold) was then calculated using participant-reported total family income the previous year, the total number of household occupants, and the equivalent U.S. census-based federal poverty thresholds. 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; ethnicity identified as Hispanic or non-Hispanic. Responses were recoded using the categories from 1995 to 1996. Categories other than African American, and

White/European American were small and were, therefore, combined to one category referred as ‘other race.’

#### 3.2.3. Neighborhood structural characteristics

Information about neighborhood characteristics was obtained from the Northeast Ohio Community and Neighborhood Data for Organizing (NeoCANDO), a free, publicly accessible social and economic data system maintained by the Center on Urban Poverty and Community Development, Case Western Reserve University ([neocando.case.edu](#)). To explore the relationship between neighborhood characteristics and perceptions of child maltreatment contributors within the 13-item list, four census tract-level variables were used for each study neighborhood at both time points. Child maltreatment rate was the number of children investigated for maltreatment per 1000 population under 18 years of age; the Supplemental Nutrition Assistance Program (SNAP) participation rate was the percentage of children whose families received benefits (an indicator of poverty); the violent crime rate was the count of violent crimes (Part 1 Uniform Crime Reporting) per 100 population; the illicit drug offense rate (e.g., possession, trafficking) was the count per 100 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 similarly 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).

### 3.3. Analysis

Means (or medians) and proportions were used to summarize continuous and categorical variables, respectively. Because the ratings of the 13 contributors were not normally distributed and in some cases were highly skewed, a median (quantile) regression approach was used. Moreover, to better assess how each of the 13 items' contributions to maltreatment may have changed over time, a separate model was run for each contributor instead of the earlier-used factor analysis approach ([Korbin et al., 2000](#)) that reduced the 13 items to a smaller set of summary variables. The following predictors were simultaneously entered: study period (1995–1996 versus 2014–2015), individual characteristics, and the four neighborhood structural characteristics. At each time point, study participants were clustered in neighborhoods. Thus, the variance of error terms was allowed to vary by neighborhood in all regression models, in effect adjusting for neighborhood clustering ([Rogers, 1993](#)). Missing values were very low (less than 0.5%). All statistical modeling was conducted in Stata version 13.

## 4. Results

### 4.1. Sample characteristics

The sample characteristics ([Table 1](#)) are presented for each time point at the “individual participant” level, treating the sample in each time point as a single sample of 400 individuals, and at the “neighborhood” level, reporting characteristics' median values and corresponding interquartile range (IQR, 25th percentile and 75th percentile), to provide information about these characteristics across the 20 study neighborhoods. The 1995–1996 sample was largely female (82.0%), with an average age of 34.1 years. Most participants were African-American (54.8%) or White (36.3%), and had lived in their neighborhood an average of 10.7 years. Participants' households contained an average of 2.5 children and 2.0 adults. Slightly less than three-quarters of participants had completed high school or more. Nearly two-thirds of the sample in 1995 had a family income below the poverty threshold, and 66.5% were employed at least part-time.

Compared to the 1995–1996 sample, the 2014–2015 sample was

**Table 1**

Sample characteristics at the individual level, treating the sample in each time point as a single sample of 400 individuals, and at the neighborhood level, reporting characteristics' median and interquartile range (25th–75th percentile) for the 20 neighborhoods.

	Total sample (n = 400)		Neighborhoods (n = 20)	
	1995	2015	1995	2015
	Mean (SD) or %		Median (IQR)	Median (IQR)
<b>Individual characteristics</b>				
Age (years)	34.1 (9.5)	37.6 (11.4)	33.0 (31.6, 34.4)	35.0 (33.6, 39.9)
Female gender (%)	82.0	82.4	82.5 (75.0, 90.0)	85.0 (75.0, 90.0)
Race (%)				
African American	54.8	60.4	42.5 (16.3, 100.0)	72.5 (31.3, 85.0)
White	36.3	23.8	37.5 (0, 73.8)	15.0 (0, 50.0)
Other <sup>a</sup>	9.0	15.8	0 (0, 3.8)	10.0 (0, 13.8)
Tenure in neighborhood (years)	10.7 (11.0)	10.6 (11.8)	11.0 (8.4, 13.3)	10.5 (8.0, 11.7)
Number of household children	2.5 (1.6)	2.2 (1.4)	2.5 (2.1, 2.9)	2.2 (1.9, 2.4)
Number of household adults	2.0 (0.8)	2.0 (0.9)	2.0 (1.9, 2.2)	2.1 (1.9, 2.2)
Annual household income <sup>b</sup> (rank <sup>c</sup> )	2.2 (1.1)	1.9 (1.1)	2.0 (2.0, 2.8)	1.8 (1.0, 2.0)
HS education and above (%)	72.8	79.7	32.5 (25.0, 43.8)	50.0 (41.3, 58.8)
Below federal poverty level (%)	63.7	60.1	63.7 (20.0, 85.0)	60.2 (25.0, 85.0)
Employed (%)	66.5	69.0	65.0 (56.3, 75.0)	70.0 (60.0, 78.8)
<b>Neighborhood characteristics (administrative data)</b>				
Violent crime (per 100 population)	1.7	1.9	1.6 (1.3, 1.8)	2.0 (1.3, 2.4)
Illicit drug offenses (per 100 population)	0.8	0.7	0.8 (0.2, 1.4)	0.6 (0.0, 0.8)
Children receiving SNAP (per 100 population)	65.6	74.6	64.4 (48.5, 82.9)	74.4 (64.9, 92.6)
Investigated for child maltreatment (per 1000 children)	71.7	111.9	69.2 (50.7, 91.9)	124.8 (103.4, 154.8)

IQR = Interquartile Range (25th percentile, 75th percentile).

<sup>a</sup> Other = 3 Asian, 3 Native American, and 3 “other” in 1995; 1 Asian, 2 Native American, 30 “Bi- or Multi-racial” in 2015.

<sup>b</sup> In 2015 dollars.

<sup>c</sup> Ranks: 1 = \$0 - \$20,000; 2 = \$20,001 - \$40,000; 3 = \$40,001 - \$60,000; 4 = \$60,001 + .

similar in the proportion of females, length of residence in the neighborhood, number of household adults, employment status and poverty status. However, compared to the 1995–1996 sample, the 2014–2015 sample was slightly older (mean of 37.6 years), had a smaller average number of children per household (2.2), had a greater percentage of African Americans (60.4%), smaller proportion of White participants (23.8%), and greater proportion of “other” race (15.8%, most self-identifying as “bi or multi-racial”). Moreover, compared to the 1995–1996 sample, the 2014–2015 sample was more highly educated with about 80% completing high school and slightly less poor (60.1%).

With respect to neighborhood-level characteristics (Table 1), violent crime and drugs offenses remained quite stable over time, with their variation across neighborhoods generally low. However, SNAP rates, and maltreatment investigation rates, were higher in 2014–2015 than the earlier time point, and also showed greater variation across the study neighborhoods. Of note, the 2014–2015 investigation rate for Cleveland, at approximately 100 per 1000 children, was over twice the national rate (U.S. Department of Health & Human Services, 2017). This substantially greater rate speaks to the need to better understand this phenomenon in Cleveland.

#### 4.2. Rating of contributor items

Comparison of median ratings of the 13 contributors for the total sample at each time point and median ratings across the neighborhoods at each time point generally revealed consistency over time (Table 2). In both 1994–1995 and 2014–2015, all items had a median rating of at least 5.5, indicating that participants largely considered all 13 items as contributing in some degree to child maltreatment. Moreover, ratings of items were generally consistent at both time points: “drugs,” “alcohol,” and “psychological or emotional problems” were the highest rated, while “divorce,” “single parents,” and “lack of religion” were viewed as contributing the least to maltreatment. Also, the variation in ratings across the neighborhoods within the same time period was low, as indicated by the IQRs of two points or less.

#### 4.3. Regression analysis

##### 4.3.1. Differences in ratings over time

The contributors “drugs,” “alcohol,” and “psychological or emotional problems” were consistently rated as very high in both time periods, regardless of differences at the individual or neighborhood level. Regression analyses for these items was uninformative due to the lack of variability in participants' ratings. Regression analyses of the remaining ten items adjusting for individual and neighborhood characteristics found few significant changes in ratings over time (Table 3). The largest change between the two time points was the decreased rating for “lack of religion”: adjusted for all other variables, the rating decreased 1.76 points from 1995 to 1996 to 2014–2015 ( $p < .01$ ). In contrast, “single parents” was rated higher as a contributing factor in 2014–2015 than in 1995–1996:  $b = 0.85$  ( $p < .05$ ). Ratings of the remaining 8 items did not change significantly between the time periods.

##### 4.3.2. Differences in ratings by individual characteristics

Adjusting for all other variables, the largest rating differences in magnitude were associated with age and race (Table 3). Concerning age, compared to 18–29 year-old participants, those 60 years or older rated “lack of religion” 2.39 points higher ( $p < .05$ ), “divorce” 1.62 points higher ( $p < .01$ ), “unemployment” and “lack of family values” about 1.3 points higher ( $p < .01$  and  $p < .05$ , respectively), and “poverty” 0.77 points higher ( $p < .05$ ). Similarly, participants 30–59 years of age also rated “lack of religion,” “lack of family values,” “divorce,” and “poverty” significantly higher than did 18–29 year-olds, generally at the same or a slightly lower rating compared to the oldest participants. The 30–59 year-old group also rated “stress” significantly higher than the youngest age group ( $b = 0.36$ ,  $p < .05$ ).

Concerning race, both African Americans and participants of “other” race rated “lack of religion” approximately 2 points higher [ $b = 2.08$  ( $p < .01$ ) and  $b = 2.09$  ( $p < .05$ ), respectively] than White participants, and these groups also rated “divorce” higher compared to White participants [ $b = 0.99$  ( $p < .05$ ) and  $b = 0.72$  ( $p < .05$ ), respectively]. Moreover, compared to White participants, African

**Table 2**  
Etiology items median scores<sup>a</sup> (interquartile range) for total sample and across neighborhoods at each time point.

Item	Total sample (n = 400)		Neighborhoods (n = 20)	
	1995	2015	1995	2015
	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
Drugs	10.0 (10.0–10.0)	10.0 (9.0–10.0)	10.0 (10.0–10.0)	10.0 (10.0–10.0)
Alcohol	10.0 (9.0–10.0)	10.0 (9.0–10.0)	10.0 (10.0–10.0)	10.0 (10.0–10.0)
Psychological or emotional problems	9.0 (8.0–10.0)	10.0 (8.0–10.0)	9.3 (9.0–10.0)	10.0 (9.0–10.0)
Abuse or neglect in parents' own childhood	9.0 (8.0–10.0)	9.0 (7.0–10.0)	9.0 (8.6–9.5)	9.0 (8.0–10.0)
Stress	9.0 (7.0–10.0)	9.0 (7.0–10.0)	9.0 (8.0–9.5)	9.0 (8.0–9.9)
Lack of family values	9.0 (7.0–10.0)	9.0 (7.0–10.0)	9.0 (8.5–9.0)	9.0 (8.0–9.5)
Unemployment	8.0 (6.0–10.0)	9.0 (7.0–10.0)	8.5 (7.6–9.0)	9.0 (8.0–9.0)
Lack of knowledge about raising children	8.0 (7.0–10.0)	9.0 (7.0–10.0)	8.3 (8.0–9.0)	9.0 (8.0–10.0)
Poverty	8.0 (6.0–10.0)	9.0 (7.0–10.0)	8.0 (8.0–9.0)	9.0 (8.1–10.0)
Teen parents	8.0 (5.0–9.8)	8.0 (6.0–10.0)	7.5 (7.0–7.9)	8.0 (7.5–8.4)
Divorce	7.0 (5.0–9.0)	7.0 (5.0–10.0)	7.0 (6.0–7.5)	7.0 (6.5–8.0)
Lack of religion	7.0 (3.0–10.0)	5.0 (2.0–9.0)	7.0 (5.6–7.9)	5.5 (5.0–7.0)
Single parents	6.0 (3.0–8.0)	6.0 (4.0–9.0)	5.5 (5.0–6.0)	6.3 (5.6–7.0)

IQR = Interquartile range (25th percentile, 75th percentile).

<sup>a</sup> Score: 1 = contributes nothing, 10 = contributes a lot.

Americans also showed higher ratings for “lack of knowledge about raising children” ( $b = 1.00, p < .01$ ), “abuse or neglect in parents' own childhood” ( $b = 0.71, p < .01$ ), and “stress” ( $b = 0.76, p < .01$ ).

Adjusted results also showed that female participants rated three etiological items less than male participants: “divorce” ( $b = -0.89, p < .01$ ), “single parents” ( $b = -0.71, p < .05$ ), and “unemployment” ( $b = -0.63, p < .05$ ). However, female participants rated “abuse or neglect in parents' own childhood” slightly higher than did males ( $b = 0.71, p < .05$ ). No clear differences in item ratings were observed by family poverty status, employment status, length of residence, or education.

#### 4.3.3. Differences in ratings by neighborhood-level characteristics

Adjusted analyses revealed several small ( $bs$  ranging from 0.5–1.0 points) statistically significant associations between neighborhood-level characteristics and ratings of etiological items but in no clear pattern. The largest number of associations with item ratings involved maltreatment investigation rates. Participants living in the higher (second and third) tertiles of child maltreatment investigation rates indicated that “lack of religion” had a greater contribution to child maltreatment than did participants living in neighborhoods in the lowest tertile of child maltreatment investigation rates:  $b = 1.27, p < .01$  for third tertile, and  $b = 0.94, p < .01$  for second tertile. Participants living in the highest tertile of investigation rates also rated “stress” as a greater contributing factor to maltreatment than did those living in the lowest tertile ( $b = 0.75, p < .05$ ), while those living in the second tertile had greater ratings for the items “divorce” ( $b = 1.00, p < .05$ ) and “single parents” ( $b = 0.83, p < .05$ ) compared to participants of the lowest tertile in child investigation rates.

Concerning SNAP rates, our proxy measure for neighborhood poverty, participants living in the upper (3rd) tertile of SNAP rates rated “unemployment,” “lack of family values,” and “lack of knowledge about raising children” as greater contributing factors than did participants living in the neighborhoods in the lowest tertile of SNAP rates ( $bs$  ranging from 0.49–1.00). Also, residents in the second tertile SNAP rates rated “teen parents” higher than did those in the first tertile ( $b = -1.00, p < .01$ ). Poverty level of the participants' residential neighborhoods, as reflected by SNAP rates, was unrelated to participants' ratings of poverty as a contributing factor to maltreatment.

Caregivers living in the upper tertile of neighborhood crime rates rated “lack of religion” as less of a contributing factor to maltreatment than those in the lowest tertile ( $b = -0.90, p < .01$ ). Caregivers living in the middle tertile of crime rates rated “teen parents” as a more important contributor than those in the lowest tertile crime rate

( $b = 0.53, p < .05$ ). Participants living in neighborhoods with the highest drug offense rates rated both “lack of religion” and “lack of family values” as greater contributors to maltreatment than did those living in neighborhoods with the lowest drug use rates ( $b = 0.77$  and  $b = 0.49$ , respectively,  $p < .05$ ). Estimation of the association between drug offense rates in participants' residential neighborhoods and participants' rating of the importance of “drugs” as a contributing factor to maltreatment was not possible because of the invariance in participants' rating of drugs.

## 5. Discussion

To the best of our knowledge, this is the first study to examine changes in neighborhood caregivers' views of the factors contributing to child maltreatment over time. Study findings indicate that caregivers' perceptions of etiology have remained generally consistent at two time points twenty years apart despite structural and economic changes in the city and its neighborhoods over the two study points. In terms of caregivers' overall ranking of items, at both time points the most important contributors to child maltreatment were “drugs,” “alcohol,” and “psychological or emotional problems,” while the least important were “divorce,” “single parents,” and “lack of religion.”

Three items – drugs, alcohol, and psychological/emotional problems were robustly and uniformly rated as very high. Statistical assessment of changes in caregivers' ratings over time via regression analyses was precluded by a lack of variability in the ratings across individual and neighborhood variables and over time. This finding is consistent with the fact that addiction and mental health problems can strongly influence child welfare, regardless of socio-economic conditions. For the remaining ten items where analyses were possible, after adjusting for the effects of a range of individual and neighborhood characteristics, contribution ratings of eight items – “stress,” “poverty,” “unemployment,” “divorce,” “teen parents,” “lack of family values,” “abuse or neglect in parents' own childhood,” and “lack of knowledge about raising children” – remained statistically unchanged over time. Two items showed statistically significant changes between the two time points: on a 10-point scale, the rating of “single parents” increased just less than 1 point, while that of “lack of religion” decreased by approximately 2 points.

The observed temporal increase in the rating of the importance of “single parents” as contributing to maltreatment may be related to a more general trend occurring in the greater Cleveland area over this time period: the proportion of female-headed households with children generally rose between the two time points for both the overall city and

**Table 3**  
Median regressions of etiological items on study year, individual, and neighborhood-level characteristics, showing unstandardized Beta coefficients and associated standard errors.

	Stress	Poverty	Unemployment	Divorce	Single parents	Teen parents	Lack of family values	Lack of religion	Abuse/ neglect in parents' own childhood	Lack of knowledge about raising children
Constant	7.24** (0.38)	7.87** (0.75)	7.68** (0.78)	6.78** (0.50)	5.42** (0.65)	6.77** (0.61)	7.34** (0.40)	3.49** (0.56)	8.29** (0.46)	7.00** (0.44)
Study year (1995 as ref)										
2015	-0.16 (0.25)	0.53 (0.37)	0.12 (0.32)	-0.37 (0.33)	0.85* (0.34)	0.39 (0.32)	-0.15 (0.32)	-1.76** (0.30)	0.00 (0.23)	0.00 (0.35)
Individual characteristics										
Age (18–29 as ref)										
30–59	0.36* (0.18)	0.63* (0.25)	0.69 (0.40)	0.65* (0.31)	0.45 (0.42)	0.57 (0.33)	1.23** (0.22)	1.41* (0.55)	0.00 (0.14)	0.00 (0.25)
60 +	0.36 (0.55)	0.77* (0.32)	1.34** (0.49)	1.62** (0.50)	-0.23 (1.06)	-0.23 (0.38)	1.32* (0.52)	2.39* (1.11)	-0.43 (0.52)	0.00 (0.52)
Race (White as ref)										
African American	0.76** (0.28)	0.47 (0.36)	0.29 (0.38)	0.72* (0.32)	0.32 (0.26)	-0.07 (0.32)	0.05 (0.17)	2.08** (0.42)	0.71** (0.17)	1.00** (0.32)
Other race	0.18 (0.25)	0.49 (0.38)	-0.36 (0.71)	0.99* (0.44)	0.37 (0.46)	-0.36 (0.46)	0.23 (0.33)	2.09* (0.86)	0.00 (0.33)	0.00 (0.44)
Female gender	0.25 (0.23)	-0.18 (0.30)	-0.63* (0.31)	-0.89** (0.30)	-0.71* (0.36)	-0.43 (0.28)	-0.04 (0.15)	-0.52 (0.35)	0.71* (0.34)	0.00 (0.19)
Tenure in neighborhood	0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.02 (0.02)	0.01 (0.01)	0.00 (0.01)	0.05** (0.02)	0.00 (0.01)	0.00 (0.01)
Family income below poverty threshold	-0.05 (0.14)	-0.27 (0.23)	0.00 (0.34)	-0.19 (0.32)	-0.03 (0.34)	0.27 (0.33)	-0.03 (0.20)	-0.24 (0.46)	-0.29 (0.18)	0.00 (0.14)
Employed	0.37 (0.26)	-0.09 (0.16)	0.24 (0.27)	0.16 (0.30)	-0.38 (0.39)	-0.14 (0.34)	-0.05 (0.12)	0.44 (0.53)	0.00 (0.12)	0.00 (0.15)
H.S. Education or more (below H.S. as ref)	0.22 (0.22)	-0.13 (0.25)	-0.04 (0.31)	-0.40 (0.24)	-0.25 (0.37)	0.21 (0.32)	0.49 (0.26)	0.40 (0.60)	0.00 (0.17)	0.00 (0.24)
Neighborhood characteristics										
NBH SNAP rates (Lower tercile as ref)										
Second tercile	-0.44 (0.40)	-0.73 (0.46)	-0.14 (0.47)	-0.14 (0.40)	-0.50 (0.39)	-1.00** (0.31)	-0.23 (0.28)	-0.647 (0.33)	0.14 (0.33)	0.00 (0.50)
Upper tercile	0.24 (0.29)	0.23 (0.34)	0.75* (0.37)	0.48 (0.50)	0.09 (0.40)	-0.23 (0.29)	0.49* (0.24)	-0.10 (0.39)	0.29 (0.32)	1.00* (0.46)
NBH crime rates (lower tercile as ref)										
Second tercile	-0.11 (0.29)	-0.04 (0.31)	0.36 (0.36)	-0.19 (0.29)	-0.05 (0.39)	0.53* (0.21)	0.29 (0.18)	-0.34 (0.23)	0.00 (0.22)	0.00 (0.50)
Upper tercile	-0.10 (0.15)	-0.02 (0.37)	0.18 (0.49)	-0.54 (0.51)	0.02 (0.34)	0.42 (0.27)	0.26 (0.27)	-0.90** (0.33)	0.14 (0.28)	0.00 (0.77)
NBH drugs rates (lower tercile as ref)										
Second tercile	0.16 (0.22)	0.28 (0.39)	-0.11 (0.42)	-0.24 (0.33)	-0.04 (0.41)	0.35 (0.41)	0.26 (0.37)	0.58 (0.46)	0.29 (0.16)	1.00* (0.51)
Upper tercile	0.34 (0.25)	0.26 (0.36)	-0.08 (0.35)	-0.32 (0.26)	0.51 (0.29)	0.29 (0.40)	0.49* (0.24)	0.77* (0.32)	0.14 (0.21)	1.00 (0.62)
NBH maltreatment investigation rates (lower tercile as ref)										
Second tercile	0.37 (0.36)	0.45 (0.41)	0.33 (0.29)	1.00* (0.42)	0.83* (0.35)	0.38 (0.28)	-0.29 (0.20)	0.94** (0.28)	-0.29 (0.27)	0.00 (0.53)
Upper tercile	0.75* (0.34)	0.48 (0.43)	0.03 (0.46)	1.05 (0.54)	0.30 (0.55)	0.60 (0.36)	-0.13 (0.30)	1.27** (0.33)	-0.43 (0.29)	0.00 (0.51)
Observations	799	796	796	796	798	798	797	798	797	798
R-squared	0.03	0.04	0.04	0.05	0.04	0.04	0.04	0.12	0.02	0.02

SNAP = Supplemental Nutrition Assistance Program.

\*\*  $p < .01$ .

\*  $p < .05$ .

study neighborhoods specifically (NeoCANDO, 2017). While “lack of religion” is on average, less associated with the etiology of child maltreatment over time, African-Americans rate this item significantly higher than White individuals. This result is consistent with research in epidemiology that finds that religious participation is a protective resource for African Americans against stress and health issues (Levin, Chatters, & Taylor, 2005).

Comparison of our study results to the extant literature reveals both similarities and differences. The perceived strong contribution of

parents' alcohol and drug use to maltreatment is congruent with other reports. Haj-Yahia and Schor (1995–1996) found that parents' drug or alcohol use was the most frequently perceived risk factor for maltreatment (97%) among a sample of social-science graduate students. Similarly, drug or alcohol use was identified as a risk factor by 85% of a sample of the lay public (Simarra et al., 2002). Our study reveals strong consensus of these perceptions over time and across individual and neighborhood characteristics. On the other hand, while “psychological or emotional problems” as well as “abuse or neglect in parents' own

childhoods” were relatively highly rated in both time points among caregivers in our sample, Calheiros' (2013) sample of parents were ambivalent about the importance of these factors. It should be noted that socio-cultural differences may account for some of the discrepancies between our findings and those reported in the literature, as the studies were conducted in very different cultural settings. This would be an area for further research.

Study analyses also revealed differences in the ratings of contributing factors by individual and neighborhood characteristics. However, no clear or consistent pattern emerged, making interpretation of the findings challenging. We speculate that women rated “single parents,” “divorce,” and “unemployment” as less important to maltreatment etiology than men because they may have had greater personal experience raising children in these circumstances (or seeing others raise children in these circumstances) and coping with the challenges implied. Concerning “lack of religion,” this etiological factor was rated as a more important contributor to maltreatment by African Americans (compared to White participants) and by older caregivers (compared to their younger counterparts). Although data pertaining to religiosity – adherence to a behaviors and actions that demonstrate a devotion to or worship of the sacred (Reed & Neville, 2014) – are not available for greater Cleveland or our study neighborhoods for the time period in question, our study findings are congruent with those from studies of large, nationally representative samples reporting greater religiosity among African Americans compared to Whites (Pew Forum on Religion and Public Life, 2014; Hunt & Hunt, 2001; Taylor, Mattis, & Chatters, 1999) as well as among older American adult generations compared to younger adult generations (Pew, 2014).

Study limitations should be noted. First, only caregivers residing in an urban setting participated, so results may not be generalizable to caregivers in rural or suburban settings. Second, the study neighborhoods' relatively low violent crime and illicit drug offense rates and variance may have precluded detection of their associations with etiological items. Third, the etiological items were identified a priori by the researchers; caregivers did not have the opportunity to identify other factors contributing to maltreatment that might have been important to them. Nevertheless, it was important to the study design to retain the original 1995 items in order to be able to examine any changes over time. Also, while our study had the important benefit of using two time points, it is possible we may have missed changes that happened in the intervening years. Furthermore, although the analytic regression models were statistically significant, they explained only a small portion of the variances in the etiological items. Perhaps, unmeasured characteristics such as personal experiences of child maltreatment, mental illness, other personality characteristics, or exposure to mass media coverage of child abuse and neglect were more important in influencing caregivers' perceptions. Clearly, further research is needed in order to better understand caregiver perspectives on the causes of child maltreatment. In this regard, previous reports of observed differences in both neighborhood- and maltreatment-related perspectives of adult neighbors compared to their children (Spilsbury, Korbin, & Coulton, 2012), and adult neighbors versus social-service professionals (Gross-Manos et al., 2018) highlight the need to collect information from multiple perspectives to more completely assess the factors believed to contribute to maltreatment in a community. Finally, use of a simple 10-point scale may not have adequately captured the complexity of caregivers' views of the factors that contribute to maltreatment. Given such methodological issues of survey research involving participants' (subjective) perceptions (see for example, Bertrand & Mullainathan, 2001), further research is needed to advance survey methodological approaches to measuring such perceptions.

In conclusion, this study contributes to the limited literature that exists concerning caregivers' perceptions of child maltreatment etiology and how those perceptions may change over time. Despite demographic and economic changes that have occurred in Cleveland, OH over 20 years, caregivers' perceptions of the etiology of child maltreatment

have shown substantial consistency over two time points twenty years apart. The consistently high ratings at two time points 20 years apart of drugs, alcohol, and psychological or emotional problems suggests that substance abuse and mental health issues might resonate with caregivers concerned about maltreatment and thereby serve as topics to engage community support for maltreatment prevention or intervention efforts. The most notable temporal change was a decline in the average perceived importance of “lack of religion” as a contributory factor. And yet, differences in perceptions across race are the largest for “lack of religion,” with African Americans placing a higher relevance to it than Whites. It has been proposed that religion can serve as an important context in which to address child maltreatment (Mahoney, Pargament, Tarakeshwar, & Swank, 2001; Shor, 1998). Our findings suggest that religion (or the lack thereof) may be less salient in some populations, but continues to be relevant to the African American community. The overall consistency of results over time indicates that for maltreatment prevention or intervention efforts using or planning to use maltreatment etiology in some way in its activities, etiology seems to represent a fairly stable platform for programming.

### Conflicts of interest

None.

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