# Parenting and Proximity to Social Services: Lessons from Los Angeles County in the Community Context of Child Neglect

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## Abstract

Using a sample of 438 parents in Los Angeles County, CA, this study examines the role of proximity to social services in child neglect. In an extension of social disorganization theory, it seeks to understand the potential sources of support in neighborhoods for families. It uses ordinary least squares regression to examine driving distance from parents' residences to four types of services (child care, domestic violence, mental health/substance abuse, and poverty). The results show an association between proximity to mental health and substance abuse services and parents' self-reported neglectful behaviors. Additionally, higher levels of socioeconomic disadvantage (poverty, unemployment, and low education), having older children, respondents being male, and respondents being older parents are associated with higher levels of child neglect, while being white is associated with lower levels. Overall, the findings suggest a potentially protective role of geographic access to mental health and substance abuse services in child maltreatment. Additional research on the pathways through which proximity to services influences child neglect is needed.

### Keywords

Child neglect; neighborhoods; mental health services; prevention; social services; substance abuse services

## Introduction

The neighborhoods in which we live may have profound influences on our health, well-being, and ability to function in many realms, including our ability to parent (Diez-Roux & Mair, 2010; Coulton, Crampton, Irwin, Spilsbury, & Korbin, 2007; Freisthler, Merritt, & La Scala, 2006; Maguire-Jack, 2014a). According to social disorganization theory (Shaw & McKay, 1942), neighborhoods that are characterized by layers of disadvantage related to poverty, unemployment, crime, and population turnover can affect the residents in a myriad of ways that are harmful, including increasing risk of child maltreatment. Social disorganization theory contends that neighborhoods are "disorganized" when they lack a

structure to help maintain social controls that allow their residents to realize shared values (Sampson & Groves, 1989). Put differently, when neighborhood residents hold common goals for their community, such as a safe and healthy environment for children, they are more likely to work together to achieve these goals. When residents cannot agree on shared principles and community expectations, however, deviant behaviors have room to flourish because community members cannot effectively organize against them.

The current study focuses on the potentially protective role that geographic access to social services play in child maltreatment. Extensions of social disorganization theory suggest that the local availability of institutional resources, like social services, both reflect and contribute to neighborhood (dis)organization (Sampson, 2001). It is posited that local institutions help community members establish agreement around common values and goals, and participation in these institutions can also give residents the confidence and tools to act, not only on their personal goals for themselves and their families, but also on their shared vision for their community. For this reason, Sampson and Groves (1989) identify limited participation in local organizations as one of three primary pathways by which neighborhood social disorganization affects residents' outcomes.

Child maltreatment researchers have applied social disorganization theory to understand community variation in child abuse and neglect. These researchers suggest that disorganized neighborhoods put parents at additional risk for maltreatment because of the multiple stressors they provide, the lack of shared social norms among residents regarding child rearing, and an absence of supportive services for parents (Ben-Arieh, 2010; Coulton, Korbin, & Su, 1999; Ernst, 2001; Freisthler, 2004; Freisthler, Bruce, et al., 2007; Freisthler, Gruenewald, Remer, Lery, & Needell, 2007; Freisthler, Gruenewald, Ring, & LaScala, 2008; Garbarino & Kostelny, 1992; Klein, 2011; Korbin, Coulton, Chard, Platt-Houston, & Su, 1998). This literature has found important associations between child maltreatment and certain neighborhood-level risk factors, most notably concentrated socioeconomic disadvantage, residential instability, racial/ethnic heterogeneity, and "child care burden" or the lack of informal resources for child supervision (Coulton et al., 2007; Freisthler et al., 2006).

The majority of this research on the neighborhood context of child maltreatment has focused on understanding what about the structure of communities puts families at risk for child maltreatment. Less is known about neighborhood features that support families and protect against maltreatment. However, in congruence with the theory put forth by Sampson and Groves (1989) that participation in local organizations contributes to neighborhood organization and positive outcomes for residents, Kim and Maguire-Jack (2013) found that participation in community organizations like Parent Teacher Associations was associated with lower levels of verbal abuse of children. Additionally, an emerging literature suggests that the accessibility of certain types of services may help prevent child abuse and neglect (Coulton, Korbin & Su, 1999; Dorsch, Bathman, Foster et al., 2010; Freisthler, 2013; Klein, 2011; Maguire-Jack, 2014b; Morton, 2013; Spearly & Lauderdale, 1983).

## Geographic Access to Services & Child Maltreatment

Several studies explore the relationship between child maltreatment and the collective or aggregate availability of social services. Freisthler (2013) examined community-level (as defined by zip code) rates of child welfare system involvement and their relationship with the presence of services for needs related to substance abuse, adoption, mental health, domestic violence, independent living, pregnant and parenting teens, housing, and children with special needs. Using a cross-sectional design and spatial regression, the author found that, when considered collectively, the density of these services (i.e. the number of services per square mile within zip codes) was associated with lower rates of child maltreatment referrals (Freisthler, 2013). The density of these services in surrounding areas (i.e. adjacent zip codes) was also associated with lower rates of both child maltreatment referrals and foster care entries (Freisthler, 2013).

Maguire-Jack's (2014) multi-level study of a low-income sample of parents in Wisconsin found that those who lived in counties that spent more money on targeted child abuse prevention services, such as home visiting, substance abuse treatment, parenting education and mental health services, were less likely to be investigated for maltreatment by child welfare authorities. This protective relationship persisted even after the author controlled for a range of potentially confounding family- and county-level characteristics.

Using interview data from 400 parents living in 20 randomly selected Census block groups in Cleveland, Ohio, Coulton and colleagues (1999) observed a modest bivariate correlation (R=−.10) between the local availability of thirteen types of "neighborhood facilities" (including social services like day care centers and medical clinics, but also some commercial businesses like banks and grocery stores; Coulton, Korbin & Su, 1996) and rates of reported child maltreatment. Neighborhoods (i.e. census block groups) with more of these facilities had lower rates of reported child maltreatment. However, when the authors used multi-level modeling and parents' self-reported risk for child abuse and for neglect as measured by the Child Abuse Potential Inventory (CAPI; Milner, 1986, 1994) as dependent variables instead of neighborhood maltreatment rates, the availability of these services/ facilities did not predict child maltreatment (Coulton, Korbin & Su, 1999). The authors note that the CAPI measures parents' *potential* for maltreating a child based on traits associated with abusive and neglectful behavior, but not whether parents actually engage in abuse or neglect (Coulton, Korbin & Su, 1999). Therefore, the results of this study do not preclude the possibility that local services were playing a protective role in these communities by reducing the chances that high-risk parents would act on their potential for maltreatment.

Conversely, Ben-Arieh's (2010) cross-sectional analysis of community-level predictors of child maltreatment in 173 small towns and cities in Israel found that the rate of full time social workers per 1,000 child habitants functioned as a risk factor for child maltreatment. Towns and cities with more social workers relative to the size of the child population had higher rates of child maltreatment investigations. This study does not specify or distinguish between the different types of social work that these professionals were engaged in, however.

Taken together, these findings suggest that the aggregate availability of social service resources within communities may play a protective role in helping reduce child maltreatment risk, although the evidence is hardly definitive. This body of research does not, however, add to our understanding of which specific types of services drive this relationship and therefore have the greatest potential to mitigate child maltreatment risk. Several additional studies have attempted to inform these questions by exploring the isolated effects of geographic access to particular types of services on child maltreatment.

### Poverty Services

Neighborhood socioeconomic disadvantage has been repeatedly linked to increased child maltreatment risk (Coulton et al., 2007; Freisthler et al., 2006). Indeed, this may be the most robust finding across the social disorganization literature on child maltreatment. Moreover, the frequently co-occurring poverty-related concerns of unemployment, residential instability and housing stress (often measured by the concentration of vacant housing units and crowded dwellings) have also associated with higher rates of children maltreatment within neighborhoods (Coulton et al., 2007; Freisthler et al., 2006; Zuravin, 1986; 1989). Therefore, it is surprising that only a couple studies explore whether maltreatment is reduced with greater availability of services designed to reduce poverty. Of those who examined this relationship, Spearly and Lauderdale (1983) found an inverse relationship between child maltreatment rates in Texas counties and the size of the average monthly cash assistance grant for poor single parents. This relationship was observed for child abuse and for total maltreatment (abuse and neglect combined), but not for child neglect alone. Fresithler's (2013) study of Los Angeles County zip codes found that the spatial density of housing support services (i.e. number of services per square mile) is associated with lower rates of child maltreatment referrals and foster care entries.

### Child Care and Preschool

Child care and preschool services are increasingly highlighted as important sources of support for vulnerable families that not only enhance children's school readiness and enable parents to work but also have the potential to promote positive parenting (Magnuson & Waldfogel, 2005; USDHHS, 2010; 2011; Zhai, Waldfogel & Brooks-Gunn, 2013). These services may even help prevent child maltreatment by socializing parents in prosocial parenting norms and offering respite from the sometimes overwhelming demands of caregiving (Horton, 2003; MacDonald, 2001). Several early social disorganization studies of child maltreatment lend support to this idea by documenting a clear, inverse link between community rates of preschool participation and child maltreatment (Garbarino, 1976; Garbarino & Crouter, 1978). A comparison study of two otherwise similar neighborhoods with contrasting levels of child maltreatment also found that mothers in the high-risk community perceived child care services to be less accessible (Garbarino & Sherman, 1980). More recently, Klein (2011) found that a higher percentage of 3- and 4-year-olds attending preschool, both locally and in adjacent neighborhoods, was associated with lower rates of maltreatment referrals and substantiations (Klein, 2011). Additionally, while neighborhoods with a greater spatial density of child care center spaces had higher rates of maltreatment referrals involving young children (0–5 years old), neighborhoods with more licensed child

care spaces relative to child care need had lower rates of maltreatment referrals involving this age group (Klein, 2011).

### Domestic Violence Services

Despite clear evidence that intimate partner violence (domestic violence) and child maltreatment frequently co-occur and the growing trend amongst states to treat children's exposure to domestic violence as a form maltreatment (Bragg, 2003), only one study to date explores the relationship between geographic access to domestic violence services and child maltreatment. Contrary to expectation, Freisthler (2013) found that the spatial density of domestic violence services actually predicted higher rates of child welfare referrals and foster care entries. However, the author speculates that this unexpected finding may be a measurement artifact because the accuracy of the study's data on the locations of these types of services was likely compromised by the tendency to keep the location of domestic violence shelters secret as a safety precaution.

## Mental Health & Substance Abuse Services

Findings regarding children maltreatment and geographic access to mental health and substance abuse services are mixed. Children of parents who have mental health and/or substance abuse problems are substantially more likely to experience maltreatment and child welfare system involvement than those who do not (Besinger, Garland, Litrownik & Landsverk, 1999; Kotch, Browne, Dufort & Winsor, 1999; Westad & McConnell, 2012). This suggests that the accessibility of community services designed to promote mental health and manage drug and alcohol addictions could play an important role in lowering in communities' child maltreatment risk. In their study of children with mental health needs in the U.S. child welfare system, Bai and colleagues (2009) found that the number of mental health professionals per 10,000 county residents predicted greater utilization of mental health services, albeit not improved mental health outcomes. Paradoxically, the same study found that the population-adjusted number of mental health facilities was inversely related to mental health service utilization for this population. In her study of zip codes in Los Angeles, California, Freisthler (2013) found the relationship between the density of mental health services and child maltreatment referral or foster care entry rates to be nonsignificant.

In terms of substance abuse, Freisthler (2013) found that geographic access to substance abuse services appeared to function as a risk, rather than protective, factor for child welfare system involvement. A greater density of substance abuse services within zip codes, as well as within surrounding zip codes, was associated with higher rates of both child protective services referrals and/or foster care entries. Conversely, Morton's (2013) study of Census tracts in Bergen County, New Jersey associates proximity to substance abuse treatment services with lower rates of child protective services referrals; and the association between alcohol outlet density (i.e. the number of bars, liquor stores, and restaurant selling beer and/or liquor per square mile) and child protective services referral rates was weakened when substance abuse services were more geographical accessible.

As a whole, this body of research represents an important extension of the social disorganization literature on child maltreatment by drawing attention to the role that

geographic access to social services can play in improving neighborhood safety for children. However, it has several methodological limitations. Most notably, with the singular exception of Coulton and colleagues (1999) study of parents' self-reported child abuse potential, it relies on formal child welfare system measures to represent child maltreatment, despite the fact that cases that come to the attention of the child protective services systems represent only a fraction of the actual incidence of child abuse and neglect (Sedlak & Basena, 2014; Straus et al., 1998). Additionally, these studies tend to measure geographic access to services in one of three ways: via the number or density of services within a spatial unit (e.g. the number of services per population or per square mile within and surrounding a spatial unit) (Ben-Arieh, 2010; Coulton et al., 1999; Freisthler, 2013; Klein, 2011), via the rate of service utilization by residents (Garbarino, 1976; Garbarino & Crouter, 1978; Garbarino & Sherman, 1980; Klein, 2011), or via the average service expenditure within a spatial unit (Maguire-Jack, 2014; Spearly & Lauderdale, 1983). Additionally, Morton (2013) used the distance from Census tracts' geographic centers (centroids) and the nearest service location to represent service availability. All four of these measurement approaches fail to account for variation in service access for individuals residing in different locations within the same spatial units, which can be considerable in large areas like zip codes and counties.

The current paper extends this literature by using an alternative measurement approach to explore the relationship between geographic access to social services and child maltreatment. Specifically, we examine child neglect at the individual level, using parents' own description of their parenting behaviors, in relation to the proximity of the four types of local social services discussed above that address family needs and problems which frequently co-occur with child maltreatment (Stith et al., 2009), namely poverty, child care, domestic violence, and mental health/substance abuse services. Specifically, we adapt the approach used by Dorsch and colleagues (2010) in their descriptive study of geographic access to parent education services in racial/ethnic minority neighborhoods, and use the travel distance via road networks between families' homes and service locations to represent geographic accessibility. Not only does this approach individualize measurement of geographic service access, enabling us to detect potentially meaningful variation amongst residents of the same community, it is also particularly well suited to our study location of Los Angeles County, California. A sprawling metropolis where 'cars are king' and the public transit market share trails many other large urban areas at less than two percent (Morris, 2009), driving distance is likely the best indicator of residents' geographic access to services in this community.

## Study Hypotheses

Thus, based on social disorganization theory and the empirical literature summarized above, our study hypotheses are that:

1. Parents in closer proximity to child care services will report less child neglect;

2. Parents in closer proximity to domestic violence services will report less child neglect;

3. Parents in closer proximity to mental health and substance abuse services will report less child neglect; and

4. Parents in closer proximity to poverty services will report less child neglect.

## Methods

### Data

The survey data come from a National Institutes on Alcohol Abuse and Alcoholism-funded Center Grant (P60-AA06282), under a study titled "The Social Mechanisms of Child Physical Abuse and Neglect," conducted by Dr. Bridget Freisthler. Between March and October of 2009, a general population telephone survey, using listed samples, was conducted in fifty California cities with populations between 50,000 and 500,000 that were purposively sampled to maximize validity in terms of geography and ecology (Thompson, 1992). The full sample includes 3,023 parents who were 18 years or older and had at least one child age 12 or younger who resided in the home at least 50% of the time.

Live interviewers completed all survey sections except for the sensitive child maltreatment questions, which were completed via interactive voice response (IVR) technology. IVR is an innovative survey data collection method that uses computerized phone interviewing technology to reduce social desirability bias. Like the more commonly used computer-assisted telephone interviewing (CATI) approach, respondents use touch-tone entry to key in their responses to survey questions; but, unlike CATI which still relies on a live person to ask interview questions, IVR plays voice-recorded questions over the phone, completely eliminating the need for respondents to interact with a live person around sensitive questions/answers. IVR has been shown to minimize social desirability bias in responses to questions about sensitive topics like drug and alcohol abuse and sexual behavior, and recent research, using data from the same study from which we drew our sample, also suggests that IVR may limit social desirability bias in responses to questions about problematic parenting (Kepple, Freisthler & Johnson-Motoyama, 2014).

Street addresses and telephone numbers were obtained from commercial lists to send potential respondents a letter introducing the study. Individuals were provided a phone number to call to opt out of further contact related to the survey. The response rate for the full 50 cities was 47.4%. For individuals who chose to participate, their street address was masked using adaptive spatial masking to assign the respondents pseudo *x, y* coordinates. This process allowed the survey group to maintain the confidentiality of the participant's location and is explained in detail in Freisthler, Johnson-Motoyama & Kepple (2014).

For the current study, the pseudo *x, y* coordinates were used to link respondents' survey data with information about the availability of social services in their communities. Social service location data were obtained from the publicly available 2010 edition of the *Rainbow Resource Directory* for Los Angeles County, California and geocoded using ArcGIS software (Environmental Services Research Institute, 2014). The *Rainbow Resource Directory* provides contact information for free or low cost social services in Southern

California communities divided into 50 social service categories. Overall, 97 percent of the service listings were successfully geocoded.

### Sample

The sample is limited to those families residing within eight of the 50 cities included in the original study, specifically those located in Los Angeles County, California. We restricted the sample to residents of these cities because social service data were only available for this area (N=438). In Los Angeles County, the overall response rate was 49.95%. Given the relatively low response rate for the survey, U.S. Census data was consulted to help assess whether survey nonresponse was indicative of selection bias. Specifically, demographic characteristics of the sample were compared to population demographics in the eight cities from which the current study's sample was drawn using data from the American Community Survey. While some differences between the sample and population were observed, they were not substantial (see the Limitations section of this article for further discussion).

### Measures

**Key Predictor Variables—**Our key predictor variables of interest were the path, or driving, distance in miles from respondents' addresses to four different types of social services in their neighborhood: (1) poverty (services for basic needs, hunger, employment, housing, transportation, and homelessness); (2) mental health/substance use (counseling, eating disorders, self-help groups, and services denoted as for alcohol and other drug abuse); (3) domestic violence services; and (4) child care services. Mental health and substance use services were placed in the same category because it was very common for these two services to be collocated.

ArcGIS version 10.1 software (Environmental Services Research Institute, 2014) was used to map routes and calculate the path distances between the geocoded pseudo *x, y* coordinates for each survey respondent in Los Angeles County and the nearest of each of the four categories of social services. Specifically, we used 2014 TIGER/Line Shapefiles (https:// www.census.gov/geo/maps-data/data/tiger-line.html) to create a road network for Los Angeles County, incorporated this into a Network dataset containing the geocoded respondent and service location data, and then used the "New Closest Facility" functionality in ArcGIS' Network Analyst toolbar to calculate the various paths and corresponding road travel distances between survey respondents and service locations. Because distance is calculated from individual person to the nearest service, multiple individuals within a neighborhood would have differing distances from their home to a service.

**Dependent Variable—**Child neglect was assessed using a subset of questions from the Multidimensional Neglect Behavior Scale (MNBS, Kantor, Holt, & Straus, 2003) that were answered with regards to a focal child. The MNBS was created to assess a variety of types of neglect, including supervision, physical neglect, cognitive neglect, and emotional neglect. Parents with more than one child under the age of 13 in the household were instructed to answer the question about parenting behaviors for the child who had the most recent birthday. Specifying a focal child is helpful for two reasons: (1) to determine the severity of the parenting behavior, which is dependent on the developmental stage of the child; and (2)

to control for characteristics of the child. The survey included 28 of the MNBS questions, which are intended to measure supervision, physical needs, and abandonment. To reflect developmental differences, the questions are specific to the age of the focal child, with subsets of questions being provided for parents of a child under age 5, age 5–10, or over 10 years of age. The supervision questions include both a parent's level of supervision while the child is directly in the parent's care as well as the level of knowledge a parent has about where or with whom the child is with when not in their direct care. An example of a supervision item for a child under 5 is "In the past year, how often did you distract your child when s/he tried to do something that could be unsafe like pull on an electric plug or touch the stove?" For a child age 5 and older, an example of a supervision question is "In the past year, how often did you NOT know where your child was playing when s/he was outdoors?" The physical needs questions are inherently intertwined with poverty, but it should be noted, that when chronic, such circumstances would likely be equated with child neglect from a child protective services standpoint. An example of a physical needs item for a child age 5–10 and 10+ is "In the past year, how often have you not had enough food in the house for the child?" The responses were coded from 0–3, with 0 indicating "never," 1 indicating "sometimes," 2 indicating "often," and 3 indicating "always." When needed, responses were reverse coded such that higher numbers indicated more neglectful behaviors.

Cronbach's alpha is a commonly used tool for assessing the internal consistency of items within a scale (Santos, 1999). Although there is some disagreement in the field, .70 is generally held as acceptable reliability (Santos, 1999). In the full sample of all 50 cities (N=3,023), the alpha reliability coefficient ranges from .551 to 729 for the scale, depending on the age of the child. In our sample of N=438 in Los Angeles County, the alphas range from .518 to.759.

**Covariates**—We include a set of independent control variables that relate to psychosocial characteristics as well as demographic factors. In terms of the psychosocial characteristics, we include depression and anxiety (alpha=0.67), for which we took the mean of five questions (e.g. "In the past month, have you been bothered a lot by little interest or pleasure in doing things?") and also drug and alcohol use, which is calculated as the number of days in the past year the individual used any type of drug or alcohol. The Cronbach's alpha for this scale is 0.67.

In terms of demographic factors, we include a measure of socioeconomic disadvantage, which is a count of the number of these hardships experienced: poverty, low educational attainment, and lack of employment (scale: 0 to 3 with higher numbers indicating greater socioeconomic disadvantage). Poverty is estimated in the following way: first, we assessed income by family size by taking the midpoint of the income range a respondent selected and comparing that figure to the number of individuals in the household. We used the 2009 (time of survey) Federal Poverty Level (FPL) to determine whether we considered an individual to be lower or higher income. For the purposes of this study, a threshold of 100% of the FPL ($22,050 for a family of 4) was used. Individuals who reported incomes higher than this cut point were assigned a 0 and individuals who reported incomes lower were assigned a 1 on our poverty variable. In terms of education, we created a dichotomous variable indicating whether the respondent had less than a high school education (yes = 1 and no = 0). For

employment, we created a measure of not working (yes = 1 and no = 0), which included being unemployed, working in the home, being a student full time, etc. Our models also include child and respondent sex (1=male, 0=female), respondent race (1=White, 0=Black, Hispanic, or other), child and respondent age in years, marital status of respondent (1=married or cohabiting, 0=single), and number of children under the age of 18 residing in the household.

### Missing Data

We imputed missing data for our full analysis sample using multiple imputation techniques (Allison, 2002; Rubin, 1987; Schafer & Graham, 2002). We ran a series of t-tests to estimate differences between respondents with complete data and those with missing data, and found that the data were not missing completely at random, thus suggesting a need for multiple imputation. There were statistically significant (p<0.05) differences in the mean level of poverty, employment, and education. Multiple imputation assumes that data are missing at random (but not missing completely at random) and uses information contained in other variables to predict values for the missing data. We imputed 40 data sets for all missing data in our sample using chained equations with all the variables included in our analyses using Stata 12 (StataCorp, 2011). Chained equations were selected over mean imputation or random number imputation so that we could utilize all the information in our dataset while imputing. We selected 40 datasets because the loss of power from imputing 40 datasets compared to greater quantities (e.g. 100) is minimal when the amount of missing data is moderate or low (Graham, Olchowski, & Gilreath, 2007). The amount of data was relatively low in our sample, with 8 variables having some degree of missingness, ranging from <.01% to 5%. The income measure had the highest degree of missingness, with 5% missing.

### Analysis

All analyses were performed using STATA Statistical Software release 12 (StataCorp, 2011). We relied on ordinary least squares regression to conduct our analyses. The first model included child neglect as the dependent variable, with road travel distance to the four service types as key independent variables of interest. We also included the full set of control variables. Two sensitivity tests were conducted to check whether the results were affected by the imputation process. We first repeated the model using a similarly imputed dataset with respect to the independent variables and covariates, except we did not impute the dependent variables. We then repeated the model again using only the unimputed data.

## Results

### Descriptive Statistics

Table 1 includes the descriptive statistics for the sample. There were no statistically significant differences in these statistics between the imputed and unimputed samples. In our sample of 438 parents in Los Angeles County, nearly 14% of families fell below 100% of the 2009 FPL. The average number of days using any alcohol or drugs in the past year was about 100, and 20% of respondents reported some level of depression or anxiety. In terms of child demographics, the average number of children per household was 2.3, slightly more than half (53%) of the focal children were male, and the average focal child age was 6.8

years. Of the respondents, the average age was 39 years, 30% were male, 38% were white, 11% had less than a high school education, 85% were married or cohabiting with a partner, and 43% were not working. In terms of our socioeconomic disadvantage variable (count of experiencing poverty, low education, and unemployment), the average was 0.65 out of a possible 3, suggesting only a modest degree of socioeconomic hardship. The average road travel distance from respondent to services were: 1.9 miles to child care, 3.5 to domestic violence, 1.6 to poverty, and 1.9 to mental health/substance abuse. For the key dependent variables, the mean level of neglect was 3.8 (out of a possible 45 if "always" was selected for every question; note: no respondent selected "always" for every question), indicating a low level of neglect.

### Inferential Models

Table 2 shows the results of the primary model (all imputed variables) as well as the sensitivity tests (imputed independent variables only and completely unimputed). These tables show that living farther from mental health and substance abuse services was associated with higher levels of child neglect behavior ($p<0.05$). There were no statistically significant relationships between neglect and distance to the other service types. Additionally, having higher levels of socioeconomic disadvantage, having an older child, and the respondent being male and older were all associated with higher levels of neglect ($p<0.05$). Finally, respondents who were white reported lower levels of neglectful behaviors ($p<0.05$). These results were robust to both sensitivity tests, in which we relied on data that imputed only the independent variables and data that were completely unimputed.

## Discussion

This study attempts to deepen our understanding of how the geographic availability of social services within communities influences child maltreatment. While there is now a robust literature supporting the premise of social disorganization theory that residents of neighborhoods characterized by structural challenges like concentrated impoverishment and high rates of population turnover have an elevated risk of experiencing child maltreatment (Coulton et al., 2007; Freisthler et al., 2006; Maguire-Jack, 2014a), there is still much to learn about the ways in which additional supports within distressed neighborhoods might protect against maltreatment. Our study builds on the extant research on this topic in two important ways: (1) by examining self-reported child neglect behaviors rather than child maltreatment potential or officially reported statistics; and (2) by using the driving distance between individual parents' homes and the nearest service of each type rather than a neighborhood-level measure of service availability, which takes into account the reality that not all community residents enjoy the same degree of geographic access to services according to their dispersion within the community. Additionally, our study is one of three existing studies (with Coulton et al., 1999 and Maguire-Jack, 2014b) that examines individual parents' maltreatment behaviors as opposed to community-level rates, and it is one of three (with Coulton et al., 1999 and Spearly & Lauderdale, 1983) that examines neglectful behaviors specifically rather than combining neglect with physical abuse. This is beneficial because abuse and neglect may have different etiologies. All but one of the prior studies on social service access and child maltreatment rely on officially reported child

maltreatment measures and the other study used a self-report measure of child abuse potential, rather than actual behaviors. In addition to the fact that official child maltreatment data fails to account for unreported maltreatment, it may not be an accurate proxy for actual maltreatment rates because such decisions must be made with a limited amount of information and are subject to local child protection policies and practices (Waldfogel, 2000). Although individual report of child maltreatment behaviors may be subject to social desirability bias, the current study adds to this body of work by providing an alternative measure to the official reports and the CAPI, thus making it possible to assess the robustness of findings shared across studies and measurement strategies.

Within the existing literature, there is a focus on the number of services available within an area, with researchers often using either the spatial density of services, the concentration of resources per number of habitants, or the amount of expenditures on services (Ben-Arieh, 2010; Coulton et al., 1999; Freisthler, 2013; Klein, 2011; Maguire-Jack, 2014). The current study focuses instead on the path distance from an individual parent's home to the nearest service of that type, providing an alternative measure of service accessibility. This measure differs from that used by Morton (2013), who examined the distance from the centroid of the census tract to substance abuse services as a neighborhood characteristic. The current study examines the distance from respondents' homes to services, providing an individualized, rather than neighborhood-level, measure of each subject's access. It also employs a more precise approach to measuring service proximity than Morton (2013), who relied on the Euclidean ("as the crow flies") distance between the tract centroid and service locations, without respect to travel infrastructure. We use path, or road travel distance, which takes into account the ways in which road networks influence geographic access from a source to a target point.

Based on this measurement approach, our study finds evidence that proximity to mental health/substance abuse treatment services, but not child care, domestic violence or poverty relief services, is associated with lower levels of child neglect. These findings lend partial support to social disorganization theory as an explanation for why some communities experience higher rates of child maltreatment than others. According to Sampson and Grove's (1989) extension of this theory, neighborhoods denuded of local services and institutions are missing an important piece of social infrastructure for encouraging residents to build relationships with each other, develop shared norms about appropriate behavior (e.g. parenting), and organize to address neighborhood concerns. This perspective treats participation in all types of neighborhood institutions and services as being of equal importance, however, and does not distinguish between the relative value of particular types of neighborhood resources with respect to particular types of problems. Our study joins an emerging literature that suggests that the presence of specific types of services within neighborhoods may be more critical than others respect to controlling child maltreatment.

Our finding about the protective role of substance abuse and mental health services coincides with the findings of Morton (2013), which suggest that proximity to substance abuse services at the neighborhood-level is associated with lower rates of child maltreatment. Conversely, Freisthler (2013) found that a greater density of substance abuse

services was associated with higher rates of child maltreatment referrals and foster care entries and that the density of mental health services was unrelated to these outcomes.

Our finding regarding the protective effects of geographic access to substance abuse/mental health services is consistent with Morton (2013), but is in opposition to the finding that spatial density of substance abuse services is associated with higher rates of maltreatment (Freisthler, 2013). This may stem from the differing measures of service availability. While our study and Morton's (2013) study relied on distance to the nearest service measures, Freisthler (2013) used the spatial density of substance abuse services (i.e. number of services per square mile) within a zip code and its adjacent zip codes. This latter measurement approach does not differentiate between living in a neighborhood that has a substance abuse treatment center just a couple spatial units away versus living in a community that does not have a substance abuse center anywhere in the vicinity.

In terms of the other service types, unlike Freisthler (2013), who found that the density of domestic violence services and child maltreatment referrals were positively associated, we do not find a significant relationship between proximity to domestic violence services and child neglect. Again, the discrepancy between our and Freisthler's (2013) findings may be because our more individualized measurement of service access is capturing variation that Freisthler's (2013) study in unable to capture. It could also stem from our exclusive focus on neglect, or the fact that our outcome variable reflects parent self-report rather than child welfare system involvement. It is also possible that greater availability of domestic violence services is associated with involvement in child protective services due to greater exposure to mandated reporters but may not be associated with individual behaviors.

Our definition of poverty services takes into account a range of services, including but not limited to those addressing housing needs and homelessness. Our finding that proximity to poverty services was not related to child neglect differs from Freisthler's (2013) finding that neighborhoods with a greater density of housing services had lower rates of child maltreatment referrals. These discrepancies may be due to, our individual approach to measurement, which prevented us from controlling for neighborhood poverty. To the extent that poverty services are effectively targeted in high needs areas, the ameliorative effect of these services on child maltreatment may be obscured by the omission of a neighborhood poverty measure. The protective effects of housing services may also be washed out by the inclusion of employment support and poverty relief services in our the definition of our variable, particularly if these types of services tend to be located in neighborhoods in which need (i.e. poverty and joblessness) is greatest. As previously mentioned, high rates of poverty and unemployment are well established predictors of child maltreatment (Coulton et al., 2007; Freisthler et al, 2006).

Additionally, while Klein (2011) documents a relationship between the availability of early care and education services (i.e. licensed child care and preschool services) and reduced rates of child maltreatment, the current study did not find evidence that proximity to child care was related to either child neglect. Again, this may be an artifact of our measurement strategy. We focused on the distance between parents and the nearest service provider; however, proximity to a singular child care provider, who probably only serves a small

number of families, may not be as consequential to family functioning as the overall availability of child care services relative to need and/or utilization rates, as measured by Klein (2011). Additionally, while Klein (2011) focused on children birth to five years old, our study included parents of children birth through 12 years old, with the average focal child being elementary school-aged. Therefore, it is possible that proximity to child care has a protective effect for families with young children, but this effect was blurred by the inclusion of parents of older children in the study sample.

In terms of the other variables, socioeconomic disadvantage, being male, being older, and having an older child were associated with higher levels of neglect. Being white was associated with lower levels of neglect. Our finding regarding respondents' sex may seem surprising given that prior studies find that women are more likely to perpetrate neglect (Sedlak & Basena, 2014). However, these studies are based on child protective services data and/or the judgments of other professionals that interface with families, as opposed to parent self-report. It is possible that women are more likely to be reported for neglect because of their greater likelihood of being the primary caregiver, but that when examining individual behaviors men may be more likely to engage in and/or report such behavior.

## Limitations

These findings must be interpreted with caution, due to several limitations. Of particular note, the current study was unable to control for neighborhood characteristics that have been previously found to be associated with child maltreatment behaviors. As previously mentioned, it is possible that after taking into account neighborhood disadvantage, access to poverty services might have a protective effect. However, we were unable to conduct a multi-level study that would allow for the estimation of neighborhood-level characteristics because of the sample used in this study. We limited the sample to only those families located in Los Angeles County because we only had service information for this community. As a result, we had too few people per census tract (often 1–2 people) to reliably estimate the model using census tract as the level two grouping variable, and too few zip codes for use as the grouping variable. Additionally, this study is cross-sectional in nature. As a result, we are unable to draw causal conclusions and cannot account for changes in service accessibility over time and how these changes might relate to child neglect.

Another important limitation that may have hindered our ability to appropriately estimate the relationship between access to domestic violence services and maltreatment is that we are only able to measure distance to services for which the location is known. As Freisthler (2013) notes, domestic violence shelters are unable to share their locations for safety and confidentiality reasons, so the proximity to domestic violence services variable may not be fully valid. Another limitation related to the services is our inability to measure whether the respondent accessed the services in question. The survey instrument did not ask respondents whether they had received the services that we examined, and so our paper focuses on the availability of services, rather than receipt of services. A natural extension of the current study would entail simultaneously exploring both service access and service receipt. in relationship to child maltreatment outcomes.

In terms of our dependent variable, the child neglect measure we used (MNBS) is susceptible to social desirability bias due to the self-report nature of the measure, although the use of interactive voice response (IVR) technology to collect the neglect data from parents should have helped mitigate this concern. Relatedly, we initially attempted to examine the relationship between proximity to social services and child physical abuse, as well as neglect, but had to abandon this idea due to low reliability in the measure for our sample. The main study utilized the CTS-PC (Straus et al., 1998), and in the full sample (N=3,023 individuals in 50 cities), the alpha is .60. However, in our sample of N=438 in Los Angeles County, the alpha reliability coefficient is .343. Given the low reliability, we chose not to show these findings.

Additionally, respondents were asked to specify a focal child for the child neglect questions. This was necessary to determine the severity of certain behaviors, which depends, in part, on the age of the child. For example, leaving a child unattended has different dangers for a child who is 10 years old compared to a baby. However, this may also be a limitation, since the parent could potentially use more or less severe behaviors on another child within the home. Thus, the focal child measurement approach could impede us from capturing the full scope of parenting behaviors.

The relatively low response rates for this study (49.95%) may reflect some selection bias, wherein the types of caregivers willing to participate in the survey are not fully representative of the broader population. To assess this possibility, we compared the study samples' demographics to 2009–2013 American Community Survey (5-year estimates) data on residents in the eight cities in Los Angeles County from which the sample was drawn. While the rates of non-employment (reflecting both nonparticipation in the labor force and being unemployed) were almost identical for the sample (42.6%) and the broader population (42.7%), there were some small to moderate differences between the sample and broader population along other dimensions. Approximately 14% of the families in the sample reported incomes below the poverty level, while slightly more (nearly 17%) of the families in the population with related children less than 18 years old reported incomes below the poverty level. Thirty-eight percent of the sample identified as non-Hispanic White, which was slightly more than the 32% of the community. Also, 85% of the caregivers interviewed were married or cohabiting. In comparison, 69% of the families residing in the sampled cities with children less than 18 years old were headed by a married couple. It is likely that these figures would be more comparable, however, if unmarried but cohabiting caregivers could be identified and added to the Census estimate. The only substantial difference between the study sample and population that was observed concerns education level. While 11% of the interviewed caregivers had less than a high school education, almost double this figure (21%) of adults 25 years and older in the population had less than a high school education. This suggests that caution should be exercised in generalizing our findings to less educated parents.

Finally, an extremely important limitation of the majority of studies attempting to understand the role of social ecological context is the inability to properly account for another form of selection bias. We are unable to factor into our analysis the fact that parents have choice (to varying degrees) in where they live, and as a result, it is possible that parents

who partake in neglectful behaviors choose to live farther from mental health and substance abuse services.

## Conclusion

Despite these limitations, this study provides valuable insight regarding how the geographic accessibility of social services affects parenting and child maltreatment risk. Results suggest that the proximity of mental health and substance abuse services plays a protective role in child maltreatment. Thus, embedding these types of services in communities with high rates of child protective services involvement may be a strategic way to reduce rates of child neglect. Future research should seek to disentangle the pathways through which proximity to mental health and substance abuse services reduce neglectful behaviors. An integral next step is to investigate these relationships using multi-level modeling to appropriately account for neighborhood-level characteristics independent of child and family traits and service utilization.

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**Table 1**

Descriptive statistics

|  | N | Mean or % | SD | Range |
|---|---|---|---|---|
| *Demographics* | | | | |
| Respondent age | 438 | 39.19 | 8.49 | 19–70 |
| Respondent white | 438 | 37.90% | | |
| Respondent male | 438 | 30.37% | | |
| Married or Cohabiting | 438 | 85.39% | | |
| Poverty | 415 | 13.98% | | |
| Not working | 420 | 42.62% | | |
| Less than HS education | 437 | 10.98% | | |
| Socioeconomic disadvantage | 438 | 0.65 | 0.77 | 0–3 |
| Child age | 438 | 6.79 | 3.64 | 0–12 |
| Child male | 438 | 52.51% | | |
| *Psychosocial Characteristics* | | | | |
| Parent stress | 378 | 1.97 | .65 | 1–4 |
| Depression/Anxiety | 435 | .20 | .26 | 0–1 |
| Alcohol and other drug use past year | 438 | 100.35 | 140.45 | 0–365 |
| *Distance to Services* | | | | |
| Child care | 438 | 1.88 | 1.76 | .04–14.27 |
| Domestic violence | 438 | 3.45 | 2.38 | .19–12.17 |
| Poverty | 438 | 1.56 | 1.58 | .04–13.34 |
| Mental health/substance use | 438 | 1.91 | 1.76 | .06–12.17 |
| *Dependent Variables* | | | | |
| Neglect | 434 | 3.76 | 4.31 | 0–28 |

## Table 2

| Neglect Models | All variables imputed | Only independent variables imputed | Completely unimputed |
|---|---|---|---|
| *Distance to services* | N=438 | N=434 | N=416 |
| Child care | −0.12 (0.24) | −0.13 (0.24) | −0.17 (0.24) |
| Domestic violence | 0.12 (0.13) | 0.12 (0.13) | 0.10 (0.13) |
| Poverty | −0.63 (0.40) | −0.64 (0.40) | −0.63 (0.41) |
| Mental health/substance use | 0.65 (0.32)[*] | 0.65 (0.32)[*] | 0.68 (0.33)[*] |
| *Covariates* | | | |
| Disadvantage | 0.89 (0.27)[**] | 0.82 (0.28)[**] | 0.97 (0.30)[**] |
| Depression/anxiety | 1.44 (0.75)[+] | 1.42 (0.74)[+] | 1.26 (0.77) |
| Alcohol and other drug use | 0.00 (0.00) | 0.00(0.00) | 0.00 (0.00) |
| Child age | 0.18 (0.06)[**] | 0.18 (0.06)[**] | .016 (0.06)[*] |
| Number of children | −0.06 (0.21) | −0.07 (0.21) | −0.06 (0.21) |
| Male child | −0.09 (0.39) | −0.05 (0.39) | −0.08 (0.40) |
| White respondent | −1.40 (0.43)[**] | −1.43 (0.44)[**] | −1.44 (0.45)[**] |
| Respondent married or cohabiting | −0.45 (0.57) | −0.56 (0.56) | −0.59 (0.59) |
| Respondent male | 1.73 (0.45)[***] | 1.73 (0.46)[***] | 1.81 (0.47)[***] |
| Respondent age | 0.08 (0.03)[**] | 0.08 (0.03)[**] | 0.09 (0.03)[**] |

Note: coefficients and standard errors are shown

[+] p<.10

[*] p<.05

[**] p<.01

[***] p<.001