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The mediating role of housing insecurity in the relationship between neighborhood social cohesion and child maltreatment among low-income urban families

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Abstract

Background: Child abuse has deleterious impacts for children across their lifespan. Understanding the pathways in which child abuse occurs is critical for targeting prevention efforts. The trust and bonds between neighbors may play a preventive role against child abuse, with parents receiving support from those who are geographically close. Such relationships may guard against housing insecurity, which is related to child abuse.

Objective: The current study examines the relationships between social cohesion, housing insecurity, and child abuse.

Participants and setting: The study relies on data from the Fragile Families and Child Wellbeing Study, a longitudinal birth cohort study of 4898 families from 20 large urban cities. The study focuses on data from waves 3, 4, 5 when focal children were ages 3, 5, and 9 years.

Methods: Structural equation modeling is used to test the mediational relationship between neighborhood social cohesion at age 3, housing insecurity at age 5, and physical and psychological child abuse at age 9.

Results: The study found that social cohesion is related to lower levels of physical and psychological abuse, and these pathways are partially mediated through housing insecurity.

Conclusions: The findings underscore the important role of neighborhoods in child maltreatment prevention.

Keywords

Child abuse; Housing insecurity; Neighborhood social cohesion; Structural equation modeling

1. Background

Approximately 618,000 children in the United States were confirmed victims of child abuse and neglect in federal fiscal year 2020 (United States Department of Health & Human Services, 2022). Child maltreatment has significant consequences across the

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lifetime, including decreased academic performance (Ryan et al., 2018), mental and physical health concerns (Cicchetti & Handley, 2019; Nowalis et al., 2022), and decreased socioeconomic status (K. L. Henry et al., 2018). Understanding the underlying mechanisms of child abuse is critical for identifying targets of prevention and has been the subject of a large body of research (Stith et al., 2009), with an increasing number of studies recognizing the importance of the home and neighborhood context on parenting (Coulton et al., 2007; Maguire-Jack, 2014; Marcal, 2021). Housing insecurity is tied to a number of negative outcomes for children including abuse (Marcal, 2021; Warren & Font, 2015). Social cohesion, on the other hand, has been found to be protective against abuse (McLeigh et al., 2018). The current study investigates the extent to which social cohesion is related to child abuse, and whether this relationship is mediated by housing insecurity.

1.1. Theoretical framework

The current study is guided by social support theory (Cullen, 1994) and the family stress model (Conger et al., 2010; Conger & Elder, 1994). Social support theory suggests that the emotional and instrumental supports provided to individuals from their family, friends, and communities reduce crime rates and individual perpetration of crime and delinquency (Kort-Butler, 2017). The theory emphasizes the important role of both supportive relationships with individuals (at the micro level) and supportive societies (at the macro level) in preventing crime. We apply this theory to examine the ways in which neighborhood social cohesion relates to individual experiences of housing insecurity as well as child abuse perpetration. Stansfeld (2005) posited that the individual social support between individuals becomes more than the sum of the networks within when combined to form social cohesion, and can have significant effects on the well-being of community members (Stansfeld, 2005).

The family stress model emphasizes the unique impact that economic pressure has on families and the ways in which it can lead to harsh or abusive parenting practices (Conger & Elder, 1994). The model suggests that economic pressures within families can lead to stress and conflict between spouses, which in turn, leads to harsher parenting styles. In the current study, social support theory guides our examination of the relationship between social cohesion and child abuse, while the family stress model guides the examination of the role of housing insecurity in child abuse.

1.2. Social cohesion

The neighborhoods in which families live affect the supports available to parents. Sampson et al. (1997) hypothesized that the interactions between residents of a neighborhood impact residents. They put forth the theory of collective efficacy, which was comprised of social cohesion and informal social control. Social cohesion relates to the interactions and trust between neighbors, while informal social control relates to the willingness of residents to intervene on behalf of the common good (Sampson et al., 1997). In relation to child abuse, social cohesion has been found to play a protective role (Cao & Maguire-Jack, 2016; Guterman et al., 2009; Maguire-Jack et al., 2021; McLeigh et al., 2018). It is hypothesized that when parents have individuals within their neighborhoods on whom they can rely for small favors, to provide support and advice, and to assist with caring for their children, parents are less likely to maltreat.

1.3. Housing insecurity

Housing insecurity includes a variety of problems that arise related to safe, affordable, and quality housing. No standard measure of definition exists, but domains of housing insecurity typically include homelessness, doubling up, foreclosure or eviction, and difficulty in paying rent, mortgage, or utilities (Leopold et al., 2018). As of January 2020, over 580,000 people in the United States were experiencing homelessness, with 30 % of this number coming from families with children (Henry et al., 2021; National Alliance to End Homelessness, 2021a). While homelessness represents the most extreme form of housing insecurity, there are millions of additional people who are experiencing other forms of housing insecurity that pose their own risks to health and development and put them at heightened risk for homelessness (Cutts et al., 2011; Routhier, 2019). For example, in 2019, 3.7 million people in the United States were “doubled up,” which means that they had moved in with friends or relatives because of inability to afford housing; that same year, >6 million people in the United States spent >50 % of their income on housing, putting them into a category called “severely housing cost burdened” (National Alliance to End Homelessness, 2021).

Housing insecurity is related to a number of negative outcomes for children, due to the physical and mental health consequences of having basic needs go unmet, the stress associated with uncertainty around basic safety, and economic stress on parents. Housing insecurity among young children is linked to food insecurity, poor health, lower weight, and developmental challenges (Cutts et al., 2011). Children who experience housing insecurity at age 5 have been found to have greater internalizing and externalizing behavioral health problems at age 9 (Marçal, 2022). In addition to health and behavior outcomes, housing insecurity is also related to child abuse, with maternal stress and depression playing a critical mediating role (Marçal, 2021; Warren & Font, 2015).

1.4. Social cohesion and housing insecurity

Living in a neighborhood with high levels of social cohesion might provide natural supports to individuals to avoid housing insecurity. Prior research found that social cohesion was protective against basic needs neglect, including supervision, medical care, and provision of food (Maguire-Jack & Showalter, 2016). This finding suggests that the bonds between neighbors may provide some level of material support. A prior study investigating the relationship between social cohesion, housing insecurity, and child behavior problems found a marginally significant protective effect of social cohesion on housing insecurity (Marçal & Maguire-Jack, 2022).

1.5. Current study

The current study extends prior studies finding a relationship between social cohesion and abuse (Cao & Maguire-Jack, 2016; Guterman et al., 2009; Maguire-Jack et al., 2021; McLeigh et al., 2018) by examining the relationships longitudinally and estimating the mediating role of housing insecurity. It also builds directly on two related studies; the first examined the relationship between housing insecurity and abuse (Marçal, 2021), while the second examined the relationship between social cohesion and adolescent behavior outcomes through its influence on housing insecurity (Marçal & Maguire-Jack, 2022). This study extends the prior work by investigating the relationship between social cohesion,

housing insecurity, and child abuse. Specifically, we examine the following research questions:

1. Is social cohesion at child age 3 related to child abuse at age 9?
2. Does housing insecurity at child age 5 mediate the relationship between social cohesion and child abuse?

2. Methods

2.1. Data and sample

Data for the present study came from the Fragile Families and Child Well-being Study (“Fragile Families”), which recruited nearly five thousand mothers in hospitals shortly after giving birth in 20 large American cities in 1998–2000. Mothers were interviewed in hospitals, and administered follow-up interviews at one-, three-, five, nine-, and 15-year intervals (Reichman et al., 2001). Fragile Families intentionally oversampled unmarried mothers at the time of the child’s birth (considered “fragile families”) and thus skewed low-income as well as racial and ethnic minority. The present study used data from the Year 3, 5, and 9 interviews due to available of variables of interest; the analytic sample was limited to mothers who retained at least partial custody of children at these three waves ($N=3123$).

The sample was comprised of mothers who were largely nonwhite (50.3 % Black, 24.2 % Hispanic, and 3.5 % some other race) and low-income (Table 1); the average household income was \$36,222 at the Year 5 interview, compared to the U.S. median family income of approximately \$58,000 in the same year (U.S. Department of Housing and Urban Development, 2005). Half of mothers (49.6 %) had not received beyond a high school education, and just over half (54.0 %) were married to or cohabitating with an intimate partner.

2.2. Measures

2.2.1. Dependent variables—The dependent variables assessed maltreatment behaviors of mothers toward study focal children. Items came from the Parent-Child Conflict Tactics Scales (CTSPC; Straus et al., 1998) collected at Year 9. *Psychological abuse* indicated the extent to which mothers screamed at, cursed at, insulted, or threatened children. *Physical abuse* indicated the extent to which mothers hit, spanked, slapped, pinched, or shook children. Both physical and psychological abuse were captured in the model as latent constructs, with five unique observed indicators each from the appropriate CTSPC subscales. Mothers self-reported the frequency with which they engaged in each behavior in the past year (0 = never, 1 = once, 2 = twice, 3 = 3–5 times, 4 = 6–10 times, 5 = 11–20 times, 6 = >20 times) such that higher values indicated higher levels of abuse. Observed items were treated as ordinal indicators for the two latent constructs *psychological abuse* and *physical abuse*.

2.2.2. Independent variable—The independent variable *neighborhood social cohesion* assessed the extent to which neighborhoods were characterized by a sense of community

and shared values. Mothers responded to five items on a Likert-type scale (1 = strongly disagree to 4 = strongly agree) at Year 3 such as “People around here are willing to help their neighbors” and “People in this neighborhood can be trusted.” Items came from the Social Cohesion and Trust Scale (Sampson et al., 1997). Observed items served as indicators for the latent construct *neighborhood social cohesion*.

2.2.3. Mediator—The mediator variable *housing insecurity* estimated families’ experiences of unaffordable, unstable, or inadequate living arrangements at Year 5. While no standard measure for housing insecurity exists, the most reliable assessments cover the domains of affordability, stability, and quality (Blake et al., 2007; Routhier, 2019). Mothers responded to six dichotomous items (0 = no, 1 = yes) regarding whether they had had various housing experiences in the past year such as missing rent or utility payments, eviction, doubling up with others, and staying in a shelter, car, or on the streets. These observed dichotomous items served as indicator variables for the latent construct *housing insecurity*.

2.2.4. Covariates—A number of covariates were included in model pathways. Variables not expected to change were collected at baseline. *Mother’s age* indicated how old mothers were at the time of the study focal child’s birth. Mothers self-identified their *race/ethnicity* as Black, white, Hispanic, or other. Finally, *child gender* indicated whether children were female (reference group) or male. Additional covariates were collected at Year 3; mothers reported whether they were *married and/or cohabitating* with an intimate partner, their *household income* in dollars, and their highest level of education completed (less than a high school degree, high school degree or GED, some college, or college degree or higher).

2.3. Analytic approach

Structural equation modeling with latent variables estimated direct and indirect pathways from the independent variable *neighborhood social cohesion* to the dependent variables *abuse* and *physical abuse* via the mediator *housing insecurity* in two phases. First, a measurement model estimated the ability of the selected observed items to validly indicate the four unobserved latent constructs using confirmatory factor analysis (CFA). Items were selected from existing scales when available and justified by prior empirical and theoretical work. An iterative model-building process correlated error variance terms based on modification index values >20 in a stepwise fashion.

Factor loadings were estimated using the weighted least square mean and variance-adjusted (WLSMV) estimator due to the categorical nature of observed items. Composite reliability estimated how well observed items performed as indicators for latent constructs (Fornell & Larcker, 1981; Kline, 2016). Calculated as the ratio of explained variance to total variance (Eq. (1)), composite reliability values exceeding 0.70 are considered to indicate acceptable internal consistency (Hair et al., 2017; Henseler & Sarstedt, 2013).

$$\frac{(\sum_{i=1}^p \lambda_i)^2}{(\sum_{i=1}^p \lambda_i)^2 + \sum_{i=1}^p v(\delta)}$$

1

where: λ_{γ} coefficient for each indicator variable $\nu(\delta)$ = error variance for each indicator variable.

In the second phase of analyses, a structural model estimated direct and indirect pathways from neighborhood social cohesion to psychological and physical aggression in parenting. The full non-recursive path analysis estimated six direct and two indirect pathways to examine the role of housing insecurity in linking neighborhood social cohesion with child maltreatment. All covariates were controlled for along all pathways with the exception of child gender, which was only controlled in pathways to maltreatment. The model was fit using the weighted least square mean and variance adjusted estimator given the categorical nature of endogenous variables (Li, 2016; Suh, 2015). Bootstrapping estimated 95 % confidence intervals for coefficient estimates (Muthen & Muthen, 2018). Fit of both the measurement and structural models was assessed using chi-square tests, root mean square error of approximation (RMSEA), Bentler's Comparative Fit Index (CFI; Kline, 2016), and standardized root mean squared residual (SRMR) according to recommended cutoff points (RMSEA <0.05, CFI > 0.95, SRMR <0.08; Kline, 2016; Schreiber et al., 2006).

Missing data were handled using multiple imputation by chained equations (MICE) with predictive mean matching due to its unique ability to manage complex survey designs as well as large proportions of missing data (Lee & Huber, 2011). According to this procedure, regression models treated each missing value as a dependent variable predicted by all other variables in the dataset (Azur et al., 2011). This approach maximized available information to generate unbiased imputed values (Morris et al., 2014). Data management, imputation, and descriptive analyses were conducted in R Version 4.1.2, and structural equation modeling was conducted in MPlus Version 8.7.

3. Results

Results of the measurement model showed excellent fit to the data (RMSEA = 0.03; CFI = 0.99; SRMR = 0.05; Table 2). Factor loadings all exceeded 0.40 and composite reliability values all exceeded 0.80, indicating observed indicators had strong internal consistency and validly reflected the underlying latent constructs.

Results of the structural model likewise showed strong fit (RMSEA = 0.03; CFI = 0.97; SRMR = 0.06; Table 3). Neighborhood social cohesion was negatively associated with both psychological and physical abuse ($\beta = -0.11$, $p < 0.001$ and $\beta = -0.06$, $p < 0.05$, respectively). Neighborhood social cohesion was likewise negatively associated with housing insecurity ($\beta = -0.07$, $p < 0.05$), which was positively associated with both psychological and physical abuse ($\beta = 0.17$, $p < 0.001$ and $\beta = -0.15$, $p < 0.001$, respectively; Fig. 1). Furthermore, housing insecurity emerged as a significant mediator for the links from neighborhood social cohesion to both types of abuse.

A number of significant covariate relationships emerged as well (Table 3). Household income and Hispanic ethnicity were both protective against housing insecurity. Being older as well as being Hispanic were also associated with lower psychological abuse, whereas having a male child was associated with higher psychological abuse. Older mothers

displayed lower physical abuse, whereas being Black, having a high school diploma or some college education relative to less than a high school education, and having a male child were associated with increased physical abuse.

4. Discussion

This study investigated the relationships between social cohesion, housing insecurity, and child abuse. We found that neighborhood social cohesion at age 3 was related to lower levels of physical and psychological abuse at age 9; and that these relationships were partially mediated through housing insecurity. Neighborhood cohesion was directly associated with lower risk for housing insecurity controlling for income and a number of other household-level factors; housing insecurity in turn was associated with subsequent increased risk for both psychological and physical abuse. Findings converge with and extend earlier research suggesting complex and enduring relationships between environmental factors and parenting behaviors.

The direct effects of social cohesion on physical and psychological abuse provide support for our adaptation of social support theory (Cullen, 1994), suggesting that support from neighbors as well as trust between neighbors can have beneficial impacts on preventing child abuse. It also coincides with prior work finding social cohesion to be protective against child abuse cross-sectionally (Guterman et al., 2009; Maguire-Jack et al., 2021; McLeigh et al., 2018), but extends this work by demonstrating a longitudinal relationship from early to middle childhood. The lasting impact of social cohesion on child abuse behaviors six years later highlights the critical role that environment plays in parenting and the importance of living in a supportive community with neighbors on whom parents can rely.

The associations between housing insecurity and both types of abuse provide support for the family stress model (Conger et al., 2010), suggesting that housing insecurity as a form of economic hardship likely increases stress among parents that leads to more harsh parenting practices. This finding is in line with prior work also documenting an association between housing insecurity and child abuse (Marçal, 2021; Warren & Font, 2015). The current study builds on this prior work by examining a protective factor against housing insecurity, and the mediational role that housing insecurity plays between neighborhood social cohesion and child abuse.

The findings that neighborhood social cohesion is related to lower levels of housing insecurity, and that housing insecurity mediates the link between neighborhood social cohesion and child abuse, suggest the important role that connections between neighbors play in the lives of families. It has previously been hypothesized that neighborhood social cohesion is related to child abuse because it reduces stress among parents (Maguire-Jack & Showalter, 2016). While the reduction in stress may play an important role in reducing child abuse, this study suggests that parents receive tangible supports from higher levels of neighborhood social cohesion, resulting in the increased ability to maintain and afford housing and utilities. This finding is promising given the significant impact of housing insecurity on families (Cutts et al., 2011) and limited availability of affordable housing (Joint Center for Housing Studies, 2020; National Low Income Housing Coalition, 2020)

and formal housing assistance (Routhier, 2019), suggesting a critical role of neighbors that may extend farther than initially anticipated.

There are several limitations of the current study that must be considered when interpreting the findings. First, the study relied on a sample of families from large American cities. The study intentionally oversampled children who were born to unwed parents, resulting in a sample that was higher risk than the general population (Reichman et al., 2001). As a result, the findings may not generalize to higher income populations or families in rural areas who face unique housing market circumstances (Huddleston-Casas et al., 2009; National Low Income Housing Coalition, 2019). Second, all study variables were self-reported by participants. Perceptions of social cohesion may be impacted by an individual's mental health status. Participants may also be reluctant to disclose child abuse behaviors and experiences of housing hardship due to social desirability bias. Third, the study did not specifically model moves that parents may have made over the study period. Finally, no standard definition or measurement tool for housing insecurity exists; limited housing data hindered a full view of family living arrangements and experiences. We attempt to control for such problems by including a range of covariates in study models, using a latent variable approach to address measurement error, and ensuring models were well justified by prior empirical and theoretical rationale.

5. Conclusion

Despite these limitations, the current study provides several important implications for policy and practice. The findings that social cohesion has a lasting impact on parenting behaviors six years later highlights the need for interventions designed to increase social cohesion among residents, as impacts may extend to long-term family functioning and child well-being. Programs such as *Strong Communities* (Kimbrough-Melton & Melton, 2015; McDonnell et al., 2015; McLeigh et al., 2015; Melton & McLeigh, 2020) have great potential to increase social cohesion and prevent child maltreatment. *Strong Communities* emphasizes the importance of creating informal bonds between residents so that neighbors can assist one another in addressing concerns that arise within the community. Given that social cohesion emerged as protective against housing insecurity and child abuse, this type of intervention has potential to promote on family well-being across a range of domains. This study also highlights the critical role of housing insecurity in child abuse. Housing insecurity is widespread among poor and near-poor families, threatening healthy family functioning for millions of children in the U.S. (Cutts et al., 2011; Marcal, 2021; Warren & Font, 2015). Although social cohesion was found to be related to housing insecurity, social cohesion alone is unlikely to eliminate housing insecurity as a serious social problem affecting millions of people in the United States; rather, families must be able to afford housing in safe, nurturing communities to support healthy parenting. More effective policies are needed to reduce housing insecurity, including increasing income, reducing housing expenses, and increasing affordable housing options for families. The implementation of more effective housing policies coupled with interventions like *Strong Communities* would have a significant preventive impact on child abuse in the United States.

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References

- Azur MJ, Stuart EA, Frangakis C, & Leaf PJ (2011). Multiple imputation by chained equations: What is it and how does it work? *International Journal of Methods in Psychiatric Research*, 20(1), 40–49. 10.1002/mpr.329 [PubMed: 21499542]
- Blake KS, Kellerson RL, & Simic A (2007). Measuring overcrowding in housing. U.S. Department of Housing and Urban Development. https://www.census.gov/content/dam/Census/programs-surveys/ahs/publications/Measuring_Overcrowding_in_Hsg.pdf.
- Cao Y, & Maguire-Jack K (2016). Interactions with community members and institutions: Preventive pathways for child maltreatment. *Child Abuse & Neglect*, 62, 111–121. 10.1016/j.chiabu.2016.10.012. [PubMed: 27810636]
- Cicchetti D, & Handley ED (2019). Child maltreatment and the development of substance use and disorder. *Neurobiology of Stress*, 10, Article 100144. 10.1016/j.ynstr.2018.100144 [PubMed: 30937350]
- Joint Center for Housing Studies, J. (2020). America's rental housing2020. Harvard University. https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_Americas_Rental_Housing_2020.pdf.
- Conger R, & Elder G (1994). Families in troubled times: Adapting to change in rural America. de Gruyter.
- Conger RD, Conger KJ, & Martin MJ (2010). Socioeconomic status, family processes, and individual development. *Journal of Marriage and Family*, 72(3), 685–704. 10.1111/j.1741-3737.2010.00725.x [PubMed: 20676350]
- Coulton CJ, Crampton DS, Irwin M, Spilsbury JC, & Korbin JE (2007). How neighborhoods influence child maltreatment: A review of the literature and alternative pathways. *Child Abuse & Neglect*, 31(11–12), 1117–1142. 10.1016/j.chiabu.2007.03.023 [PubMed: 18023868]
- Cullen FT (1994). Social support as an organizing concept for criminology: Presidential address to the academy of criminal justice sciences. *Justice Quarterly*, 11(4), 527–559. 10.1080/07418829400092421
- Cutts DB, Meyers AF, Black MM, Casey PH, Chilton M, Cook JT, Geppert J, Ettinger de Cuba S, Heeren T, Coleman S, Rose-Jacobs R, & Frank DA (2011). US housing insecurity and the health of very young children. *American Journal of Public Health*, 101(8), 1508–1514. 10.2105/AJPH.2011.300139 [PubMed: 21680929]
- Fornell C, & Larcker DF (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39. 10.2307/3151312
- Guterman NB, Lee SJ, Taylor CA, & Rathouz PJ (2009). Parental perceptions of neighborhood processes, stress, personal control, and risk for physical child abuse and neglect. *Child Abuse & Neglect*, 33(12), 897–906. 10.1016/j.chiabu.2009.09.008 [PubMed: 19900705]
- Hair JF, Hult GTM, Ringle CM, Sarstedt M, & Thiele KO (2017). Mirror, mirror on the wall: A comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science*, 45(5), 616–632.
- Henry KL, Fulco CJ, & Merrick MT (2018). The harmful effect of child maltreatment on economic outcomes in adulthood. *American Journal of Public Health*, 108(9), 1134–1141. 10.2105/AJPH.2018.304635 [PubMed: 30088994]
- Henry M, de Sousa T, Roddey C, Gayan S, & Bednar TJ (2021). The 2020 annual homeless assessment report (AHAR) to congress part I: Point-in-time estimates of homelessness. U.S. Department of Housing and Urban Development. <https://www.huduser.gov/portal/sites/default/files/pdf/2020-AHAR-Part-I.pdf>.

- Henseler J, & Sarstedt M (2013). Goodness-of-fit indices for partial least squares path modeling. *Computational Statistics*, 28(2), 565–580.
- Huddleston-Casas C, Charnigo R, & Simmons LA (2009). Food insecurity and maternal depression in rural, low-income families: A longitudinal investigation. *Public Health Nutrition*, 12(8), 1133–1140. [PubMed: 18789167]
- Kimbrough-Melton RJ, & Melton GB (2015). “Someone will notice, and someone will care”: How to build strong communities for children. *Child Abuse & Neglect*, 41, 67–78. 10.1016/j.chiabu.2015.02.015 [PubMed: 25765816]
- Kline RB (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.
- Kort-Butler LA (2017). Social support theory. In *The encyclopedia of juvenile delinquency and justice* (pp. 1–4). John Wiley & Sons, Ltd. 10.1002/9781118524275.ejdj0066.
- Lee JH, & Huber J Jr. (2011). Multiple imputation with large proportions of missing data: How much is too much?. In *United Kingdom stata users’ group meetings 23*. Stata Users Group.
- Leopold J, Cunningham M, Posey L, & Manuel T (2018). Improving measures of housing insecurity: A path forward. Urban Institute. https://www.urban.org/sites/default/files/publication/101608/improving_measures_of_housing_insecurity.pdf.
- Li C-H (2016). Confirmatory factor analysis with ordinal data: Comparing robust maximum likelihood and diagonally weighted least squares. *Behavior Research Methods*, 48(3), 936–949. 10.3758/s13428-015-0619-7 [PubMed: 26174714]
- Maguire-Jack K (2014). Multilevel investigation into the community context of child maltreatment. *Journal of Aggression, Maltreatment & Trauma*, 23(3), 229–248. 10.1080/10926771.2014.881950
- Maguire-Jack K, & Showalter K (2016). The protective effect of neighborhood social cohesion in child abuse and neglect. *Child Abuse & Neglect*, 52, 29–37. 10.1016/j.chiabu.2015.12.011 [PubMed: 26774530]
- Maguire-Jack K, Yoon S, & Hong S (2021). Social cohesion and informal social control as mediators between neighborhood poverty and child maltreatment. *Child Maltreatment*, Article 10775595211007566. 10.1177/10775595211007566
- Marçal K (2021). Housing insecurity and adverse parenting of adolescents: The roles of maternal stress and depression. *Journal of the Society for Social Work and Research*. 10.1086/712954
- Marçal KE (2022). Pathways from food and housing insecurity to adolescent behavior problems: The mediating role of parenting stress. *Journal of Youth and Adolescence*. 10.1007/s10964-021-01565-2
- Marçal KE, & Maguire-Jack K (2022). Informal supports, housing insecurity, and adolescent outcomes: Implications for promoting resilience. *American Journal of Community Psychology*. 10.1002/ajcp.12589
- McDonell JR, Ben-Arieh A, & Melton GB (2015). Strong communities for children: Results of a multi-year community-based initiative to protect children from harm. *Child Abuse & Neglect*, 41, 79–96. 10.1016/j.chiabu.2014.11.016 [PubMed: 25747873]
- McLeigh JD, McDonell JR, & Lavenda O (2018). Neighborhood poverty and child abuse and neglect: The mediating role of social cohesion. *Children and Youth Services Review*, 93, 154–160. 10.1016/j.childyouth.2018.07.018
- McLeigh JD, McDonell JR, & Melton GB (2015). Community differences in the implementation of strong communities for children. *Child Abuse & Neglect*, 41, 97–112. 10.1016/j.chiabu.2014.07.010 [PubMed: 25092232]
- Melton GB, & McLeigh JD (2020). The nature, logic, and significance of strong communities for children. *International Journal on Child Maltreatment: Research, Policy and Practice*, 3, 125–161. [PubMed: 35155993]
- Morris TP, White IR, & Royston P (2014). Tuning multiple imputation by predictive mean matching and local residual draws. *BMC Medical Research Methodology*, 14(1). 10.1186/1471-2288-14-75,75–75. [PubMed: 24903709]
- Muthen LK, & Muthen B (2018). *Mplus user’s guide*. Muthen & Muthen.
- National Alliance to End Homelessness. (2021). *State of homelessness: 2021 edition*. National Alliance to End Homelessness. <https://endhomelessness.org/homelessness-in-america/homelessness-statistics/state-of-homelessness-2021/>.

- National Low Income Housing Coalition. (2019). Housing needs in rural America. <https://nlihc.org/sites/default/files/Housing-Needs-in-Rural-America.pdf>.
- National Low Income Housing Coalition. (2020). The gap: A shortage of affordable homes. https://reports.nlihc.org/sites/default/files/gap/Gap-Report_2020.pdf.
- Nowalis S, Godleski SA, & Schenkel LS (2022). Attachment as a moderator in the relation between child maltreatment and symptoms of depression. *Journal of Interpersonal Violence*, 37(3–4), NP1516–NP1543. 10.1177/0886260520933050 [PubMed: 32532172]
- Reichman NE, Teitler JO, Garfinkel I, & McLanahan SS (2001). Fragile families: Sample and design. *Children and Youth Services Review*, 23(4), 303–326. 10.1016/S0190-7409(01)00141-4
- Routhier G (2019). Beyond worst case needs: Measuring the breadth and severity of housing insecurity among urban renters. *Housing Policy Debate*, 29(2), 235–249. 10.1080/10511482.2018.1509228
- Ryan JP, Jacob BA, Gross M, Perron BE, Moore A, & Ferguson S (2018). Early exposure to child maltreatment and academic outcomes. *Child Maltreatment*, 23(4), 365–375. 10.1177/1077559518786815 [PubMed: 30037281]
- Sampson RJ, Raudenbush SW, & Earls F (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, 277(5328), 918. 10.1126/science.277.5328.918 [PubMed: 9252316]
- Schreiber JB, Nora A, Stage FK, Barlow EA, & King J (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research* (Washington, D.C.), 99(6), 323–338. 10.3200/JOER.99.6.323-338
- Stansfeld SA (2005). Social support and social cohesion. In Marmot M, & Wilkinson RG (Eds.), *Social determinants of health* (1st ed., pp. 148–171). Oxford Scholarship.
- Stith SM, Liu T, Davies LC, Boykin EL, Alder MC, Harris JM, Som A, McPherson M, & Dees JEMEG (2009). Risk factors in child maltreatment: A meta-analytic review of the literature. *Aggression and Violent Behavior*, 14(1), 13–29. 10.1016/j.avb.2006.03.006
- Straus MA, Hamby SL, Finkelhor D, Moore DW, & Runyan D (1998). Identification of child maltreatment with the parent-child conflict tactics scales: Development and psychometric data for a National Sample of American parents. *Child Abuse & Neglect*, 22(4), 249–270. 10.1016/S0145-2134(97)00174-9 [PubMed: 9589178]
- Suh Y (2015). The performance of maximum likelihood and weighted least square mean and variance adjusted estimators in testing differential item functioning with nonnormal trait distributions. *Structural Equation Modeling*, 22(4), 568–580. 10.1080/10705511.2014.937669
- U.S. Department of Housing and Urban Development. (2005). Estimated median family incomes for FY 2005 (PDR-2001–01). <https://www.huduser.gov/portal/datasets/il/il05/HUD-Medians-2005Notice.pdf>.
- United States Department of Health & Human Services. (2022). *Child Maltreatment 2020*. U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children’s Bureau. <https://www.acf.hhs.gov/cb/report/child-maltreatment-2020>.
- Warren EJ, & Font SA (2015). Housing insecurity, maternal stress, and child maltreatment: An application of the family stress model. *Social Service Review*, 89(1), 9–39. 10.1086/680043

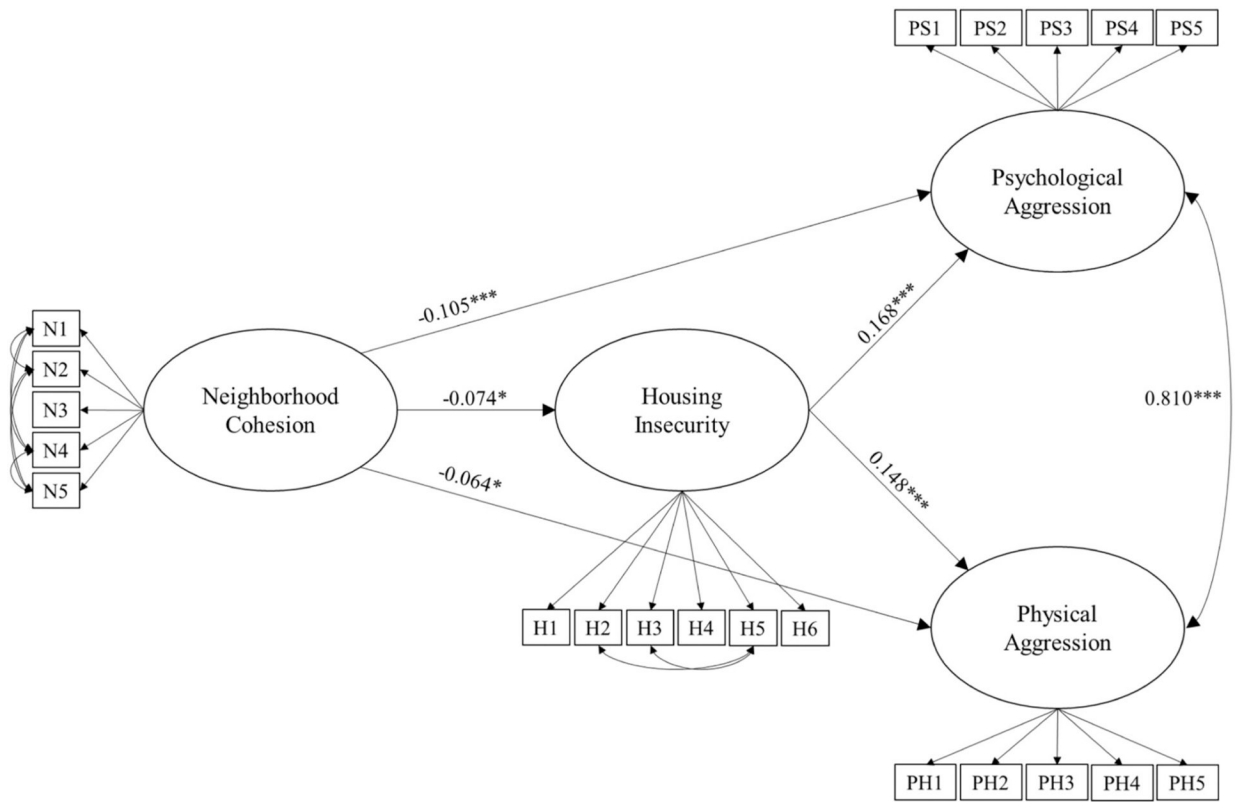


Fig. 1. Conceptual model of pathways from neighborhood cohesion to child maltreatment via housing insecurity.

Table 1

Sample description.

| | M (SD) or N(%) | % Imputed |
|------------------------------------------------------------------------------------|---------------------|---------------|
| Mother's age | 25.20 (6.02) | 1 (0.03 %) |
| Married/cohabitating | 1685 (53.95 %) | 2 (0.06 %) |
| Household income | \$36,222 (\$44,999) | 0 (0.00 %) |
| Mother's race | | 7 (0.22 %) |
| White | 687 (22.00 %) | |
| Black | 1572 (50.34 %) | |
| Hispanic | 755 (24.18 %) | |
| Other race | 109 (3.49 %) | |
| Mother's highest education | | 2 (0.06 %) |
| Less than high school diploma | 732 (23.44 %) | |
| High school diploma/GED | 816 (26.13 %) | |
| Some college | 1139 (36.47 %) | |
| College degree or higher | 436 (13.96 %) | |
| Child gender | | 0 (0.00 %) |
| Male | 1629 (52.16 %) | |
| Female | 1494 (47.84 %) | |
| Neighborhood cohesion | | |
| People around here are willing to help their neighbors | 3.82 (1.24) | 511 (16.36 %) |
| This is a close-knit neighborhood | 3.51 (1.36) | 520 (16.65 %) |
| People in this neighborhood can be trusted | 3.31 (1.39) | 521 (16.68 %) |
| People in this neighborhood generally don't get along with each other ^a | 3.58 (1.29) | 518 (16.59 %) |
| People in this neighborhood do not share the same values ^a | 3.12 (1.34) | 525 (16.81 %) |
| Housing insecurity | | |
| Did not pay full amount of rent/mortgage | 445 (14.25 %) | 7 (0.22 %) |
| Evicted from home or apartment | 68 (2.18 %) | 6 (0.19 %) |
| Did not pay full amount of utilities | 806 (25.81 %) | 10 (0.32 %) |
| Electricity turned off | 249 (7.97 %) | 6 (0.19 %) |
| Doubled up | 249 (7.97 %) | 6 (0.19 %) |
| Homeless | 63 (2.02 %) | 5 (0.16 %) |
| Psychological aggression ^b | | |
| Parent has shouted, yelled, or screamed at child | 3.14 (1.90) | 283 (9.06 %) |
| Parent has threatened to spank or hit child but did not actually do it | 2.60 (2.20 %) | 267 (8.55 %) |
| Parent has swore or cursed at child | 0.88 (1.46) | 278 (8.90 %) |
| Parent has called child dumb/lazy/some other name like that | 0.47 (1.08) | 249 (7.97 %) |
| Parent has said would send child away or kick child out of the house | 0.16 (0.63) | 257 (8.23 %) |
| Physical aggression ^b | | |
| Parent has spanked child on bottom with bare hand | 1.24 (1.57) | 275 (8.81 %) |
| Parent has spanked child on bottom with brush or other hard object | 0.88 (1.40) | 277 (8.87 %) |

| | M (SD) or N(%) | % Imputed |
|-----------------------------------------------|-----------------------|------------------|
| Parent has slapped child on hand, arm, or leg | 1.13 (1.56) | 269 (8.61 %) |
| Parent has pinched child | 0.27 (0.86) | 287 (9.19 %) |
| Parent shook child | 0.12 (0.55) | 398 (12.74 %) |

^aReverse coded.

^bMeasured on a 6-point scale.

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Table 2

Results of measurement model using CFA

| Latent construct | Observed Item | β | SE | Composite reliability |
|----------------------------------|------------------------------------------------------------------------------------|----------|-------|-----------------------|
| Neighborhood social cohesion | People around here are willing to help their neighbors | 0.853*** | 0.047 | 0.836 |
| | This is a close-knit neighborhood | 0.871*** | 0.047 | |
| | People in this neighborhood can be trusted | 0.802*** | 0.044 | |
| | People in this neighborhood generally don't get along with each other ^a | 0.579*** | 0.035 | |
| | People in this neighborhood do not share the same values ^a | 0.524*** | 0.034 | |
| Housing insecurity | Did not pay full amount of rent/mortgage | 0.758*** | 0.025 | 0.853 |
| | Evicted from home or apartment | 0.640*** | 0.048 | |
| | Did not pay full amount of utilities | 0.908*** | 0.029 | |
| | Electricity turned off | 0.727*** | 0.028 | |
| | Doubled Up | 0.636*** | 0.042 | |
| Psychological abuse ^b | Parent has shouted, yelled, or screamed at child | 0.707*** | 0.013 | 0.827 |
| | Parent has threatened to spank or hit child but did not actually do it | 0.849*** | 0.011 | |
| | Parent has swore or cursed at child | 0.707*** | 0.015 | |
| | Parent has called child dumb/lazy/some other name like that | 0.585*** | 0.020 | |
| | Parent has said would send child away or kick child out of the house | 0.614*** | 0.026 | |
| Physical abuse ^b | Parent has spanked child on bottom with bare hand | 0.748*** | 0.012 | 0.800 |
| | Parent has spanked child on bottom with brush or other hard object | 0.768*** | 0.013 | |
| | Parent has slapped child on hand, arm, or leg | 0.830*** | 0.011 | |
| | Parent has pinched child | 0.531*** | 0.026 | |
| | Parent shook child | 0.417*** | 0.037 | |
| Model fit | RMSEA (95 % CI) | CFI | SRMR | χ^2 |
| | 0.028 (0.025, 0.030) | 0.987 | 0.052 | 596.315*** |

^aReverse coded.^bMeasured on a 6-point scale.***
p < 0.001.

Table 3

Results of structural model testing direct and indirect pathways from neighborhood cohesion to aggression in parenting

| DV | IV | Direct | | Indirect via housing insecurity | |
|------------------------------|------------------------------|----------------|----------------|---------------------------------|----------------|
| | | β | 95 % CI | β | 95 % CI |
| Neighborhood social cohesion | Mother's age | 0.111 *** | 0.068, 0.147 | | |
| | Married/cohabitating | 0.065 ** | 0.019, 0.104 | | |
| | Household income | 0.128 ** | 0.059, 0.219 | | |
| | Mother's race | | | | |
| | Black | -0.211 *** | -0.259, -0.162 | | |
| | Hispanic | -0.083 *** | -0.135, -0.037 | | |
| | Other race | -0.036 | -0.068, 0.005 | | |
| | Mother's Highest Education | | | | |
| | HS diploma/GED | -0.050 * | -0.094, -0.013 | | |
| | Some college | 0.056 * | 0.004, 0.098 | | |
| | College degree or higher | 0.085 ** | 0.027, 0.130 | | |
| Housing insecurity | Neighborhood cohesion | -0.074 * | -0.129, -0.022 | | |
| | Mother's age | -0.022 | -0.079, 0.030 | | |
| | Married/cohabitating | -0.044 | -0.099, 0.000 | | |
| | Household income | -0.336 *** | -0.442, -0.243 | | |
| | Mother's race | | | | |
| | Black | -0.046 | -0.106, 0.016 | | |
| | Hispanic | -0.137 *** | -0.191, -0.080 | | |
| | Other race | 0.019 | -0.059, 0.065 | | |
| | Mother's highest education | | | | |
| | HS diploma/GED | -0.045 | -0.101, 0.007 | | |
| | Some college | 0.036 | -0.023, 0.099 | | |
| College degree or higher | -0.072 | -0.157, -0.015 | | | |
| Psychological abuse | Housing insecurity | 0.168 *** | 0.108, 0.214 | | |
| | Neighborhood social cohesion | -0.105 *** | -0.161, -0.063 | -0.012 * | -0.025, -0.002 |
| | Mother's age | -0.106 *** | -0.157, -0.064 | | |
| | Married/cohabitating | -0.007 | -0.048, 0.036 | | |
| | Household income | 0.045 | -0.006, 0.100 | | |
| | Mother's race | | | | |
| | Black | 0.023 | -0.030, 0.087 | | |
| | Hispanic | -0.091 ** | -0.148, -0.036 | | |
| | Other race | -0.014 | -0.058, 0.032 | | |
| | Mother's highest education | | | | |
| | HS diploma/GED | 0.048 | -0.004, 0.098 | | |

| DV | IV | Direct | | Indirect via housing insecurity | |
|----------------|------------------------------|-----------------------|----------------|---------------------------------|----------------|
| | | β | 95 % CI | β | 95 % CI |
| Physical abuse | Some college | 0.104 ^{***} | 0.046, 0.157 | | |
| | College degree or higher | 0.047 | -0.005, 0.097 | | |
| | Child male | 0.092 ^{***} | 0.050, 0.133 | | |
| | Housing insecurity | 0.148 ^{***} | 0.075, 0.206 | | |
| | Neighborhood social cohesion | -0.064 [*] | -0.117, -0.024 | -0.011 [*] | -0.022, -0.002 |
| | Mother's age | -0.119 ^{***} | -0.163, -0.082 | | |
| | Married/cohabitating | -0.025 | -0.068, 0.018 | | |
| | Household income | 0.045 | -0.013, 0.093 | | |
| | Mother's race | | | | |
| | Black | 0.203 ^{***} | 0.137, 0.259 | | |
| | Hispanic | 0.059 | -0.003, 0.119 | | |
| | Other race | 0.027 | -0.023, 0.076 | | |
| | Mother's Highest Education | | | | |
| | HS diploma/GED | 0.059 [*] | 0.003, 0.111 | | |
| | Some college | 0.061 [*] | 0.019, 0.113 | | |
| | College degree or higher | 0.031 | -0.026, 0.095 | | |
| Child Male | 0.060 ^{**} | 0.019, 0.098 | | | |
| Model fit | RMSEA (95 % CI) | CFI | SRMR | χ^2 | |
| | 0.028 (0.026–0.030) | 0.973 | 0.060 | 1202.396 ^{***} | |

Note: Table presents standardized estimates.

p < 0.001.

**
p < 0.01.

*
p < 0.05.