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# Exploring the impact of Detroit's neighborhood characteristics on residents' mental well-being

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**Introduction:** Detroit has encountered economic crises that negatively impacted residents' neighborhood characteristics. Although substantial efforts are being made to enhance Detroit neighborhoods, there is limited understanding of the impact of Detroit's neighborhood characteristics on residents' mental well-being. With its potential to address this gap, this study aimed to examine the relationship between mental health status and satisfaction with neighborhood characteristics.

**Methods:** Data from the 12th wave (2021) of the Detroit Metro Area Communities were utilized for this cross-sectional study. Participants included individuals 18 or older residing in Detroit ( $N = 2,173$ ). To meet the study's objective, descriptive statistics and ordinal logistic regression analyses were conducted to determine the relationship between mental health and neighborhood characteristics.

**Results:** Compared to participants who reported being very satisfied, participants who reported being very dissatisfied with the crime level were 2.12 times (95% CI = 1.10–4.08) more likely to have a higher number of mentally unhealthy days. The odds of a higher number of mentally unhealthy days were 77% (AOR = 1.77; 95% CI = 1.03–3.04) among those who reported being very dissatisfied with housing prices.

**Discussion:** Research on Detroit residents' mental well-being found a significant relationship between neighborhood characteristics and mentally unhealthy days. The findings can be used to advocate and plan programs to reduce crime levels in Detroit. Additionally, the study underscores the importance of assessing the impact of the American Rescue Plan Act on both neighborhood characteristics and residents' mental health. It also highlights the need to enhance behavioral health services for residents.

## KEYWORDS

Detroit, neighborhood characteristics, mental health, environmental health, urban health, behavioral health services

## 1 Introduction

The Great Recession has impacted various urban areas across the United States, leading to economic decline, abandoned properties, and safety concerns (1, 2). One such city that bore the brunt of this downturn was Detroit, which had been grappling with a long-term post-industrial economic downswing and recovery trend (3–5). During the recession, Detroit experienced a staggering unemployment rate of over 28% and lost almost half of its residents at the beginning of the decline (5), leading to a notable demographic shift (6). The reported residential composition of Detroit in 2014 indicated that over 81% of residents self-identified as Black and 7.5% as Hispanic (6). By 2014, an estimated 80,000 properties were abandoned due to residents leaving the city to identify better job

prospects, resulting in blight (7). Blight is characterized by a diverse set of factors, including vacant lots, abandoned buildings, and dwellings in derelict or hazardous states, as well as environmental contamination (8). Despite the challenges faced by Detroit, the city's resilience has been instrumental in driving significant progress in improving its physical environment. Over the course of five years, from 2014–2019, Detroit demolished 19,000 blighted buildings (9). Moreover, these demolitions have been linked to a decrease in some of the type of crimes (2). Although great progress has been made in improving Detroit's physical environment, there is a limited comprehension of the current effects of these changes on residents' mental health.

The presence of vacant lots in a neighborhood can have significant implications for its real estate value, crime rate, and residents' physical and mental well-being (10). A 2012 qualitative study highlighted that individuals residing in high vacancy areas experienced adverse effects on their physical health, such as injury, as well as on their mental health, including increased anxiety and perceived stigma (11). Furthermore, a more recent study conducted by Pinto and colleagues in 2021 provides supporting evidence on the health implications of blight (10). This study employed an encompassing approach, integrating cognitive mapping and the decision-making trial and evaluation laboratory (DEMATEL) technique, to analyze the economic, social, and environmental ramifications of blight (10). The analysis revealed that health and the environment are particularly susceptible to the effects of blight, indicating a noteworthy influence on these factors (10).

It is imperative to acquire an understanding of the perceived impacts on residents' mental health status, as research indicates that an individual's perceptions of their neighborhood can significantly affect their overall health outcomes (12, 13). Negative neighborhood perceptions are often associated with an increased rate of poor physical health outcomes such as obesity, alcohol use, and engagement in dating violence (13). Neighborhood characteristics have been linked to health risk factors such as increased blood pressure and higher body mass index (14). In contrast, positive perception is associated with a lower risk of stroke (15). In addition to physical health outcomes, individuals' neighborhood perceptions are also associated with their mental health. Perceived neighborhood problems, including access to grocery stores, transportation facilities, and safety issues, are associated with higher scores of depression and anxiety measures among residents (14).

Given the physical environment's known impact on well-being, this study examined the relationship between mental health status and satisfaction with Detroit's neighborhood characteristics. The findings could help inform urban planning initiatives and evaluations to improve residents' overall quality of life.

## 2 Methods

### 2.1 Data

Data from the 12th wave of the Detroit Metro Area Communities Study (16) was utilized to meet this study's

objective. The Detroit Metro Area Communities Study is an ongoing panel of address-based probability representative samples of Detroit residents conducted by the University of Michigan (17). The panel incorporated an oversample of households located in Census block groups with a population comprising at least 70% Hispanic residents (17). Moreover, it encompassed households situated in Strategic Neighborhood Fund neighborhoods (17). These neighborhoods have received directed funding investments aimed at enhancing their infrastructure, for instance, through park improvements (17). Households were randomly selected from 13 distinct sampling strata, with the initial 11 being drawn from the neighborhood boundaries outlined in Detroit's Strategic Neighborhood Fund (17). The remaining two were stratified based on the proportion of Hispanic residents [70% or more Hispanic vs. less than 70% Hispanic block groups] (17). Data collection occurred between January 6 and March 5, 2021, via an online survey or by phone interview (17). Detroit panelists 18 years or older were invited to complete the cross-sectional survey, with 2,238 responses received for a 20.22% response rate (17). Participants who did not provide responses to the questions related to their frequency of mentally unhealthy days (e.g., the number of days they felt anxious, depressed, and unable to stop worrying) were excluded from the analysis;  $N = 2,173$ . The data was weighted using a two-stage process that takes into account multiple stages of sampling and non-response (17). Additional details on the sampling design and methodological elements can be found in the DMACS Wave 12 Methodology (17).

### 2.2 Measures

The primary outcome variable was participants' mental health status over the past seven days. The number of days felt depressed, anxious, or worried are indicators of an individual's mental well-being and have been utilized in previous research to examine populations' mental health status (18–20). Therefore, the mental health status variable was developed from three questions on how often in the past seven days (1), felt nervous, anxious, or on edge (2), not able to stop or control worrying, and (3) felt depressed. The response options for these three questions were less than 1 day, 1–2 days, 3–4 days, or 5–7 days. The mental health status was based on the average sum of the responses for each of the three questions ranging from 1 to 3, with '1' representing on average feeling nervous, worried, or depressed less than 1 day and '3' delineating on average feeling nervous, worried, or depressed three or more days. This categorization has been utilized in previous research that has examined participants' mental health within the past seven days (20).

The level of satisfaction with eight neighborhood characteristics was the main independent variable. The eight neighborhood characteristics included (1) affordable housing (2), availability of public transportation (3), the condition of streets, sidewalks, and lighting (4), crime level (5), vacant lots use and maintenance (6), condition of most houses (7), availability of parks and playgrounds, and (8) access to public facilities such as libraries,

recreation, and community centers. Previous research has assessed the impact of neighborhood characteristics such as housing conditions (21), crime (22), housing price (23), parks (24), and vacant lots (25) on the mental health of neighborhood residents. This study expands on the literature by examining the relationship between residents' satisfaction with neighborhood characteristics in Detroit and its association with the number of mental health days. Furthermore, the selection of the eight neighborhood characteristics has the potential to offer a comprehensive understanding of neighborhood features. Participants' satisfaction level with neighborhood characteristics was determined by the responses of very dissatisfied, somewhat dissatisfied, neither satisfied or dissatisfied, somewhat satisfied, very satisfied, and don't know. "Don't know" responses were excluded from the analyses.

Covariates included age in years (<35, 35–54, 55–64, and 65+), gender (male/female), and race/ethnicity (White, Black, Hispanic, and Other). Education level (less than high school, high school diploma/GED, some college/associate degree, or college and higher) was recategorized to combine "less than high school" and "high school diploma" to address lower responses. Marital status (married, widowed, divorced, separated, never married, and living with partner) and income level (<\$10,000, \$10,000–\$29,999, \$30,000–\$49,999, \$50,000–\$99,999, or \$100,000+) were both included but recategorized to address limited responses; marital status (married, never married, and divorced/widowed/separated/living with partner) and income level (<\$10,000, \$10,000–\$29,999, \$30,000+), respectively. Participants' housing status (owned with a mortgage, owned without a mortgage, or renting) with the response option of 'occupied without payment' was removed due to limited responses. The number of years resided in Detroit was also included and recoded to five years or less, 6–20 years, and more than 20 years to address response numbers.

### 2.3 Statistical analysis

The data was weighted to obtain city-level population estimates (17). Descriptive statistics were utilized to analyze the participants' sociodemographic characteristics and examine the relationship between their mental health status and demographics. The findings were reported using frequencies and weighted percentages. Ordinal logistic regression analyses explored the relationship between mental health status, categorized into three levels (>1, 1–2, and 3+ days) and neighborhood characteristics. Separate models were fitted for each of the eight neighborhood characteristics while adjusting for covariates. A two-tailed *p*-value of  $\leq 0.05$  was identified as statistically significant. All analyses were conducted using STATA MP14 (26).

## 3 Results

The research sample comprised 2,173 participants, among whom 11.1% identified as White, 77.4% as Black, 7.8% as Hispanic, and 3.6% as Other race (Table 1). Approximately 27%

of females and 22% of males reported experiencing three or more mentally unhealthy days (Table 2). Additionally, approximately 39% of participants either owned a house with mortgage loans or rented, with over 76% of participants having resided in Detroit for more than 20 years. More than 52% of participants expressed being somewhat or very dissatisfied with the crime level, housing conditions, vacant lot maintenance, and housing prices (Table 3). Among those who reported being very dissatisfied, the majority reported experiencing three or more mentally unhealthy days.

The adjusted ordinal logistic regression models demonstrated a significant relationship between the number of mentally unhealthy days and neighborhood characteristics (Table 4). Compared to participants who reported being very satisfied, participants who reported being very dissatisfied with the crime level were 2.12 times (Adjusted Odds Ratio [AOR] = 2.12; 95% Confidence Interval [CI] = 1.10–4.08) more likely to have a higher number of mentally unhealthy days. Similarly, the odds of having a higher number of mentally unhealthy days were 2.13 times (AOR = 2.13; 95% CI = 1.33–3.42) among those who reported being very dissatisfied with housing conditions compared to participants who reported being very satisfied. The odds of a higher number of mentally unhealthy days were 77% (AOR = 1.77; 95% CI = 1.03–3.04) among those who reported being very dissatisfied with housing prices, and 71% (AOR = 1.71; 95% CI = 1.02–2.88) among participants who reported being very dissatisfied with vacant lots, compared to those who reported being very satisfied, respectively.

TABLE 1 The unweighted frequencies and weighted percentages of participants' sociodemographics, *N* = 2,173.

Sociodemographics	<i>n</i> (%)
<b>Age in years</b>	
<35	499 (31.8)
35–54	733 (30.7)
55–64	477 (16.1)
65+	529 (21.5)
<b>Gender</b>	
Male	638 (45.1)
Female	1,534 (55.0)
<b>Race/ethnicity</b>	
White	336 (11.0)
Black	1,440 (77.4)
Other	151 (3.7)
Hispanic	166 (8.0)
<b>Education level</b>	
High diploma or less	1,013 (50.8)
Some college/associate degree	401 (31.1)
College and higher	713 (18.1)
<b>Housing status</b>	
Owned with a mortgage	432 (20.6)
Owned without a mortgage	829 (40.0)
Renting	872 (39.5)
<b>Years resided in Detroit</b>	
5 years or less	219 (8.6)
6–20 years	314 (15.2)
More than 20 years	1,683 (76.3)

TABLE 2 The unweighted frequencies and weighted percentages of participants' mentally unhealthy days by their sociodemographics, *N* = 2,173.

Sociodemographic	Number of mentally unhealthy days		
	Less than 1 day	1–2 days	3 or more days
<b>Age in years</b>	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
<35	138 (30.8)	185 (39.0)	167 (30.2)
35–54	260 (42.2)	239 (31.7)	218 (26.1)
55–64	196 (44.1)	140 (31.7)	127 (24.2)
65+	295 (60.3)	124 (24.9)	84 (14.7)
<b>Gender</b>			
Male	292 (45.8)	183 (32.1)	147 (22.1)
Female	576 (40.0)	489 (33.0)	434 (27.1)
<b>Race/ethnicity</b>			
White	106 (29.1)	114 (38.6)	113 (32.3)
Black	632 (46.1)	421 (30.9)	355 (23.1)
Other	49 (36.6)	54 (41.3)	44 (22.2)
Hispanic	45 (26.9)	69 (45.7)	45 (27.3)
<b>Education level</b>			
High diploma or less	380 (40.3)	311 (32.0)	297 (27.6)
some college/associate degree	170 (46.1)	116 (33.2)	103 (20.7)
College and higher	301 (42.5)	228 (32.5)	172 (25.0)
<b>Housing status</b>			
Owned with a mortgage	185 (48.7)	144 (33.6)	92 (17.7)
Owned without a mortgage	368 (47.7)	233 (31.2)	205 (21.1)
Renting	297 (34.8)	282 (34.3)	270 (30.9)
<b>Years resided in Detroit</b>			
5 years or less	69 (33.7)	82 (40.8)	67 (25.5)
6–20 years	92 (32.7)	109 (39.0)	103 (28.3)
More than 20 years	718 (45.5)	492 (30.5)	419 (24.0)

## 4 Discussion

The study aimed to analyze how residents' neighborhood characteristics influence their mental health. The findings can provide insights to guide the ongoing development of Detroit neighborhoods and support the delivery of services to enhance residents' mental well-being. One of the main findings was that experiencing three or more mentally unhealthy days was significantly associated with being very dissatisfied with neighborhood crime. Research by Baranyi and colleagues supports these findings, as they identified an association between neighborhood crime and depression, anxiety, psychosis, and psychological distress (22). Detroit's crime rate has decreased over the years, showing a decrease in homicide, robbery, property crime, and burglary rates from 2014–2018 (27). However, the rates for violent crimes, rape, or assault have remained similar or increased in the city during the same period (27). It may be worth exploring the type and level of crime associated with experiencing three or more mentally unhealthy days, as this information can inform advocacy and planning efforts to reduce Detroit's overall crime rate.

A significant relationship was identified between experiencing a higher number of mentally unhealthy days and being very

TABLE 3 The unweighted frequencies and weighted percentages of participants' mentally unhealthy days by their neighborhood characteristics.

Neighborhood characteristics	Less than 1 day	1–2 days	3 or more days
<b>Crime level</b>	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Very satisfied	84 (56.1)	37 (19.8)	38 (24.2)
Somewhat satisfied	134 (46.0)	96 (32.8)	79 (21.3)
Neither satisfied or dissatisfied	167 (41.3)	137 (32.4)	106 (26.3)
Somewhat dissatisfied	200 (36.8)	200 (41.9)	140 (21.3)
Very dissatisfied	226 (41.6)	167 (27.8)	204 (30.7)
<b>Housing conditions</b>			
Very satisfied	143 (48.3)	94 (29.8)	64 (21.9)
Somewhat satisfied	281 (47.1)	199 (32.2)	146 (20.8)
Neither satisfied or dissatisfied	114 (41.8)	96 (30.5)	92 (27.7)
Somewhat dissatisfied	203 (41.4)	167 (37.0)	144 (21.7)
Very dissatisfied	130 (32.6)	111 (30.8)	138 (36.5)
<b>Housing price</b>			
Very satisfied	133 (51.3)	68 (24.7)	60 (24.0)
Somewhat satisfied	223 (44.8)	185 (34.8)	123 (20.4)
Neither satisfied or dissatisfied	219 (43.3)	151 (31.0)	135 (25.7)
Somewhat dissatisfied	119 (36.8)	122 (33.7)	118 (29.5)
Very dissatisfied	83 (28.1)	88 (35.6)	123 (36.4)
<b>Vacant lots</b>			
Very satisfied	91 (45.5)	64 (34.6)	47 (19.9)
Somewhat satisfied	187 (52.6)	128 (26.8)	94 (20.6)
Neither satisfied or dissatisfied	146 (40.1)	111 (33.2)	96 (26.7)
Somewhat dissatisfied	187 (40.8)	172 (40.5)	107 (18.7)
Very dissatisfied	218 (35.6)	171 (30.3)	218 (34.1)
<b>Parks</b>			
Very satisfied	179 (51.7)	116 (25.2)	96 (23.1)
Somewhat satisfied	252 (45.3)	191 (34.7)	143 (20.0)
Neither satisfied or dissatisfied	126 (37.1)	90 (28.6)	102 (34.4)
Somewhat dissatisfied	143 (40.2)	122 (36.5)	109 (23.4)
Very dissatisfied	146 (36.1)	140 (33.8)	128 (30.2)
<b>Public facilities</b>			
Very satisfied	145 (50.0)	88 (25.1)	76 (24.9)
Somewhat satisfied	227 (47.7)	159 (32.4)	124 (19.9)
Neither satisfied or dissatisfied	133 (43.4)	97 (26.8)	88 (29.8)
Somewhat dissatisfied	174 (37.7)	161 (39.5)	131 (22.8)
Very dissatisfied	161 (35.0)	147 (34.6)	152 (30.4)
<b>Street conditions</b>			
Very satisfied	208 (49.1)	126 (25.4)	111 (25.6)
Somewhat satisfied	237 (42.9)	188 (34.2)	165 (22.9)
Neither satisfied or dissatisfied	97 (36.8)	82 (34.7)	76 (28.5)
Somewhat dissatisfied	156 (43.0)	148 (33.9)	106 (23.1)
Very dissatisfied	178 (38.0)	129 (35.2)	132 (26.8)
<b>Transportation</b>			
Very satisfied	204 (49.4)	140 (24.3)	122 (26.3)
Somewhat satisfied	231 (42.6)	180 (33.6)	132 (23.9)
Neither satisfied or dissatisfied	181 (41.9)	139 (33.1)	112 (25.0)
Somewhat dissatisfied	95 (39.8)	73 (33.8)	90 (26.4)
Very dissatisfied	64 (31.5)	62 (35.8)	85 (32.7)

dissatisfied with housing conditions. This outcome was consistent with findings by Green et al., who determined that housing conditions are stressors, and these stressors varied by type of housing conditions, such as rodents, plumbing, roaches, and number of bedrooms (28). Data collected on Detroit's neighborhoods have previously discussed challenging housing

TABLE 4 Ordinal logistic regression analyses of relationship between mentally unhealthy days and satisfaction with neighborhood characteristics.<sup>a</sup>

Neighborhood Characteristic	Adjusted Odds Ratio	95% CI <sup>b</sup>	p-value
<b>Crime level</b>			
Very satisfied (Ref)			
Somewhat satisfied	1.83	0.95–3.51	0.07
Neither satisfied or dissatisfied	1.90	0.98–3.67	0.06
Somewhat dissatisfied	2.14	1.13–4.05	0.02
Very dissatisfied	2.12	1.10–4.08	0.03
<b>Housing conditions</b>			
Very satisfied (Ref)			
Somewhat satisfied	1.05	0.70–1.58	0.81
Neither satisfied or dissatisfied	1.21	0.76–1.91	0.43
Somewhat dissatisfied	1.28	0.85–1.92	0.24
Very dissatisfied	2.13	1.33–3.42	0.00
<b>Housing price</b>			
Very satisfied (Ref)			
Somewhat satisfied	1.13	0.70–1.84	0.62
Neither satisfied or dissatisfied	1.10	0.67–1.80	0.71
Somewhat dissatisfied	1.63	0.97–2.71	0.06
Very dissatisfied	1.77	1.03–3.04	0.04
<b>Vacant lots</b>			
Very satisfied (Ref)			
Somewhat satisfied	0.95	0.55–1.62	0.84
Neither satisfied or dissatisfied	1.28	0.74–2.23	0.38
Somewhat dissatisfied	1.22	0.73–2.03	0.45
Very dissatisfied	1.71	1.02–2.88	0.04
<b>Parks</b>			
Very satisfied (Ref)			
Somewhat satisfied	1.16	0.76–1.75	0.49
Neither satisfied or dissatisfied	2.07	1.30–3.32	0.00
Somewhat dissatisfied	1.41	0.90–2.22	0.14
Very dissatisfied	1.69	1.09–2.63	0.02
<b>Public facilities</b>			
Very satisfied (Ref)			
Somewhat satisfied	0.91	0.57–1.45	0.70
Neither satisfied or dissatisfied	1.06	0.63–1.80	0.82
Somewhat dissatisfied	1.22	0.78–1.91	0.39
Very dissatisfied	1.59	0.98–2.60	0.06
<b>Street conditions</b>			
Very satisfied (Ref)			
Somewhat satisfied	1.24	0.84–1.84	0.27
Neither satisfied or dissatisfied	1.33	0.83–2.14	0.24
Somewhat dissatisfied	1.18	0.77–1.81	0.44
Very dissatisfied	1.46	0.96–2.23	0.07
<b>Transportation</b>			
Very satisfied (Ref)			
Somewhat satisfied	1.37	0.92–2.05	0.13
Neither satisfied or dissatisfied	1.17	0.77–1.78	0.45
Somewhat dissatisfied	1.31	0.83–2.07	0.24
Very dissatisfied	1.56	0.96–2.54	0.07

<sup>a</sup>All models were controlled for age, gender, race/ethnicity, education, marital status, income, housing status, and years reside in Detroit.

<sup>b</sup>CI, confidence interval.

conditions such as pests and plumbing, heating, and electrical issues (29, 30). Moreover, data suggests a shortage of good-quality homes within certain periods (31). In 2021, Detroit

received approximately \$826 million from the American Rescue Plan Act, with a reported \$30 million in funding for home repairs (32, 33). When assessing the impact of the American Rescue Plan Act on improving Detroit's neighborhood characteristics, it would be beneficial to investigate its influence on residents' mental health, given the established relationship between housing conditions and mental well-being.

Experiencing a higher number of mentally unhealthy days was associated with being very dissatisfied with housing prices. A recent study conducted by Sung and Qiu determined that housing prices were linked to mental health (34) and provides supporting evidence for this study's findings. Sung and Qiu also reported that the type of homeownership was an influential factor (34). An increase in housing prices is associated with fewer mentally unhealthy days among homeowners (34). Whereas an increase in housing prices increased the number of unhealthy days among renters (34).

Another notable finding from this research was that participants who had or reported a higher number of mentally unhealthy days were more likely to report being very dissatisfied with vacant lot maintenance. Previous research has already shown the negative impact of vacant lots on mental health (25), particularly blighted lots (35, 36). Additionally, around \$23 million from the American Rescue Plan Act has been designated for cleaning vacant properties in Detroit to diminish blight (32). Research is needed to understand the impact of this legislation on transforming these lots and on residents' mental well-being.

This study had several limitations that should be noted. It utilized a cross-sectional design; therefore, a causal relationship between mental health and neighborhood characteristics cannot be identified. The data was collected from Detroit residents, limiting the findings' generalizability. Recall bias may influence the accuracy of respondents' recollections of their mental health status, potentially resulting in an underestimation or overestimation of the impact of neighborhood characteristics on their mental health. Although the grouping of 'living with partner' and 'divorce' for marital status addresses limited responses for this variable. This reclassification may hinder the comprehension of the varying impact of neighborhood characteristics on the number of unhealthy days within these groups. Furthermore, it is plausible that this recategorization has introduced bias into the statistical estimates. Furthermore, varying levels of satisfaction may exist among individuals who have recently relocated to Detroit within the past few weeks. These newcomers may perceive Detroit neighborhoods differently than long-term residents of more than 20 years. This data's absence could result in an inaccurate estimation of residents' satisfaction with neighborhood characteristics.

This study was the first to examine the impact of various neighborhood characteristics on the mental health of Detroit residents. The results demonstrate a significant relationship between various aspects of Detroit neighborhoods and the reporting of three or more mentally unhealthy days. These findings can serve as a foundation for advocating and planning programs aimed at reducing crime levels in Detroit. Moreover, they underscore the importance of assessing not only the impact of the American Rescue Plan Act on enhancing Detroit's

neighborhood characteristics but also its influence on residents' mental health status. Furthermore, the findings on the mental health status of participants emphasize the need to enhance behavioral health services for residents. Given the potentially prolonged duration during which Detroit residents may have experienced challenging living conditions and the considerable time frame required to ameliorate neighborhood conditions, the provision of targeted behavioral health services is instrumental in aiding residents to manage their mental health. By attending to the mental health needs of residents, these targeted services may play a role in fostering overall well-being and resilience within the city, particularly amidst the ongoing neighborhood revitalization endeavors.

## Data availability statement

Publicly available datasets were analyzed in this study. This data can be found here: <https://www.icpsr.umich.edu/web/ICPSR/studies/38199>.

## Author contributions

CD: Writing – review & editing, Writing – original draft, Supervision, Software, Methodology, Funding acquisition, Formal Analysis, Data curation, Conceptualization. JS: Writing – review

& editing, Writing – original draft, Software, Formal Analysis. US: Writing – review & editing, Writing – original draft.

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The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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