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Urban Landscapes Geog-3400

Final Research Paper

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Correlation Between Mental Health and Gentrification in Older Adults

Introduction

This research paper will examine the negative impacts gentrification has on mental health in older adults. The content below includes three articles about the effects of gentrification on adult mental health, analysis of the data, conclusions of the three papers, and a conclusion regarding the ultimate findings. The journals collected below focus on different demographics, but specifically focus on the older adult population.

For the purpose of this research paper, Gentrification can be defined as “a process marked by accelerated physical restructuring, rapid economic growth, and shifts in the social and cultural characteristics of neighborhoods”¹. The process of gentrification quickly stimulates the local economy of a neighborhood when new business open up in the area and bring new sources of revenue. Gentrification greatly changes local urban landscapes.

The process increases property value which inturn increase property taxes. Thus, the original group, or charter group, must pay more to live in the same place due to the changes in value caused by gentrification. Along with increases in property taxes, the culture of a neighborhood also shifts.

The cultural shift is related to a new population, of a different demographic than the charter group, moving into a neighborhood. The new demographic group changes the cultural and personality of the gentrified neighborhood. The change alienates the charter population to the point that they no longer identify with the neighborhood.

The combination of loss of identity and increased property taxes places a burden on the charter residents. This burden can result in the charter group leaving the area to find new

¹ Linda Diem Tran et al., “Impact of Gentrification on Adult Mental Health,” *Health Services Research* 55, no. 3 (2020): pp. 433, <https://doi.org/10.1111/1475-6773.13264>.

housing. If members of the charter group choose to stay, they begin to feel increasingly alienated from the community causing negative impacts on their mental health.

Literature review

Impact of gentrification on adult mental health²

Introduction and Methods

The goal of the research done in this article is to, **“estimate the net effect of living in a gentrified neighborhood on probability of having serious psychological distress.”**³ The researchers synthesize data pooled from the California Health Interview Survey, then compares the differences in response from adults living in low-income non-gentrified, low-income gentrified, middle- to high-income upscaled, and middle- to high-income not upscaled. The researchers used a probit regression model to test the effects living in gentrified neighborhood has an effect on increased serious psychological distress. The researchers also examined if neighborhood tenure, homeowner status, and low-income status played a role in conjunction with the type of neighborhood in increased rates of serious psychological distress.

The Kessler 6 was used to examine whether people exhibited signs of serious psychological distress. The Kessler 6 test is used to identify if an adult is suffering from a nonspecific psychological disease. If the respondent received a score over 13 out of 24, the respondent was categorized as a person with serious psychological disease. The researchers only took data from people in census tracts that were considered rural.

² Linda Diem Tran et al., “Impact of Gentrification on Adult Mental Health,” *Health Services Research* 55, no. 3 (2020): pp. 432-444, <https://doi.org/10.1111/1475-6773.13264>.

³ Linda Diem Tran et al., “Impact of Gentrification on Adult Mental Health,” *Health Services Research* 55, no. 3 (2020): pp. 432, <https://doi.org/10.1111/1475-6773.13264>

Recorded Data and Analysis

TABLE 1 Characteristics of adults aged 18 and over living in southern California Counties by neighborhood type,^a n = 43 815

	Low-income and gentrified n = 3036	Low-income and not gentrified n = 9210	Middle- to high-income and upscaled n = 8849	Middle- to high-income and not upscaled n = 22 720
Outcome: Likely had serious psychological distress in the past year	9.1	9.0	5.7	6.0
Tenure in neighborhood				
1-5 y (recent resident)	43.2	46.3	32.0	32.9
6-14 y	25.8	24.9	23.7	24.6
15+ y (long-term resident)	31.0	28.8	44.3	42.5
Gender				
Female	59.5	59.9	58.4	57.8
Male	40.5	40.1	41.6	42.2
Age category				
18-25	9.7	11.1	6.3	7.6
26-45	23.8	25.2	19.2	19.3
46-64	31.5	33.6	36.7	36.9
65+	35.0	30.2	37.7	36.2
Nativity				
Born outside United States	41.1	42.8	23.7	25.9
Born in United States	58.9	57.2	76.3	74.1
English proficiency				
Speaks only English or speaks English very well or well	75.4	72.3	93.1	90.4
Speaks English not well or not at all	24.6	27.7	6.9	9.6
Race/Ethnicity				
Latinx/Hispanic	38.9	45	16.6	21.4
Non-Hispanic White	36.5	31.7	65	59.4
Non-Hispanic Black	9.6	10.1	5.1	5.5
Non-Hispanic Asian, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, two or more race	14.9	13.1	13.4	13.8
Has Bachelor's Degree or Higher	29.5	21.8	51.9	43.6
Household income				
1st quartile	39.1	44.7	14.8	18.7
2nd and 3rd quartiles	48.0	45.7	50.7	52.4
4th quartile	12.9	9.6	34.6	28.9
Homeownership status				
Rent or other arrangements	59.5	60.4	29.6	30.7
Own home	40.5	39.6	70.4	69.3
Employment status				
Employed or not looking for work	93.1	92.1	95.9	94.9
Unemployed	6.9	7.9	4.1	5.1
Insurance status				
Currently uninsured or uninsured any time	20.0	23.0	10.5	12.6
Insured all year	80.0	77.0	89.5	87.4
Marital status				
Married/living with partner	42.0	45.5	55.5	54.8
Widowed/separated/divorced	32.4	30.0	27.2	27.3
	Low-income and gentrified n = 3036	Low-income and not gentrified n = 9210	Middle- to high-income and upscaled n = 8849	Middle- to high-income and not upscaled n = 22 720
Never married	25.6	24.5	17.3	17.9
Reported fair or poor health	29.0	33.8	16.1	19.5
Chronic conditions				
No reported conditions	67.8	67.7	71.0	69.5
Asthma, diabetes, and/or heart disease	32.2	32.3	29.0	30.5
Current smoker	12.2	13.4	9.0	9.7
Social Capital Score				
2	1.2	2.1	0.5	0.7
3	2.7	2.6	0.9	1.1
4	12.1	13.7	4.6	5.7
5	16.5	18.5	9.9	10.9
6	46.6	45.1	52.3	51.8
7	12.4	10.7	15.4	14.7
8	8.5	7.4	16.3	15.2
Feels safe in the neighborhood all or most of the time	82.4	78.2	94.6	93.0
Children in household	21.1	26.2	20.8	21.7

^aAll differences (χ^2) between respondents in low-income vs middle- to high-income neighborhoods were statistically significant ($P < .05$).

Sources: California Health Interview Survey 2011, 2012, 2013, 2014, and 2015; American Community Survey 2006-2010 and 2011-2015; and Home Mortgage Disclosure Act Aggregate Data 2010 and 2015.

Of the respondents surveyed, roughly 21% of the surveyed group was reported to live in low-income neighborhoods, 7% were reported to live in low-income gentrified neighborhoods, 20% of the respondents lived in middle- to high-income neighborhoods that have experienced upscaling, 52% of respondents lived in middle- to high- income neighborhoods that had not been upscaled.

Of the population surveyed, 7% exhibited serious psychological distress. A higher percentage of people living in low-income neighborhoods experienced serious psychological distress compared to people living in middle- to high-income neighborhoods.

New residents were not affected by upscaling or gentrification occurring in their neighborhoods. As expected, long-term residents of both low-income gentrified and middle- and high-income upscaled neighbors were reported to have an increase in serious psychological distress.

The researchers approximated that the recorded percentage of people with serious psychological distress would have been 1.4% less if respondents living in gentrified neighborhoods had not been included. The 1.4% difference in this study translates to a 13% increase in rates of people with serious psychological distress living in Southern California.

New residents (living in homes for six years or less) did not experience a change in measured, serious psychological distress even when living in gentrified neighborhoods, as for why the researchers argue “insufficient exposure to rapid neighborhood change”⁴ is the cause for no perceived change in rates of serious psychological disorder. Long-term residents (living in homes for 15 or more years) had higher rates for serious psychological disorder. Researchers correlate the increased rates of serious psychological distress with loss of community in their neighborhoods. Long-term residents in gentrified neighborhoods feel cultural displacement when the core values of neighborhoods are changed. Alongside cultural displacement, long-term residents felt pushed out and left behind. These factors outweigh the positive economic growth occurring in the neighborhood.

Low-income residents and renters were negatively impacted by gentrification, while high-income residents and homeowners were not. This suggests, “that gentrification influences mental health through heightened financial pressures associated with higher living costs”⁵. As rent and home values appreciate due to gentrification, renters in non-rent-controlled housing

⁴ Linda Diem Tran et al., “Impact of Gentrification on Adult Mental Health,” *Health Services Research* 55, no. 3 (2020): pp. 438, <https://doi.org/10.1111/1475-6773.13264>.

⁵ Linda Diem Tran et al., “Impact of Gentrification on Adult Mental Health,” *Health Services Research* 55, no. 3 (2020): pp. 438, <https://doi.org/10.1111/1475-6773.13264>.

and low-income residents have increasingly high rates of serious psychological distress. Additionally, low-income and long-term residents may feel excluded from the new opportunities created by gentrification, “new retail in gentrifying neighborhoods often caters to recent residents with higher education and incomes and may be inaccessible to residents with low incomes”⁶. In summation, long-term residents are at the greatest risk for serious psychological disorder due to alienation from change neighborhood communities and increased cost of living.

Conclusion

This study suggests that gentrification has a negative effect on the mental health of long-term residents and low-income residents of neighborhoods in the process of gentrification or upscaling. The researchers suggest that the reasoning behind this negative affects is an elevation of stress on a demographic, “who are already disproportionately exposed to stressors such as discrimination and threats to financial security and safety, gentrification can exacerbate mental health inequities”⁷.

Aging in Place in Gentrifying Neighborhoods: Implications for Physical and Mental Health⁸

Introduction and Methods

The primary goal of the research done in this article was to see how gentrification is effecting older adults. There has been very little research done on this topic up to this point. This study uses a self assessment scale of health and mental health to compare the variation of health and mental health in three different neighborhood types: low-income, high-income, and gentrified.

⁶ Linda Diem Tran et al., “Impact of Gentrification on Adult Mental Health,” *Health Services Research* 55, no. 3 (2020): pp. 438, <https://doi.org/10.1111/1475-6773.13264>.

⁷ Linda Diem Tran et al., “Impact of Gentrification on Adult Mental Health,” *Health Services Research* 55, no. 3 (2020): pp. 442, <https://doi.org/10.1111/1475-6773.13264>.

⁸ Richard J Smith, Amanda J Lehning, and Kyeongmo Kim, “Aging in Place in Gentrifying Neighborhoods: Implications for Physical and Mental Health,” *The Gerontologist* 58, no. 1 (2017): pp. 26-35, <https://doi.org/10.1093/geront/gnx105>.

The data used in this study came from National Health and Aging Trend Study, a representative study of medicare beneficiaries age 65 and older. There was a total of 8,245 participants. The data collected from this was then merged with 1970-2010 National Neighborhood Change Database which was produced by Geolytics. The population of this study was then decreased to only include community-dwelling residents of metropolitan areas, making the final sample size 6,810.

Three different variables were researched in this study. The first was health which was broken into two categories: physical health and mental health. Both were self-rated by study participants. Health was rated on a scale of 0 to 4, 0 indicated poor health and 4 indicated excellent health. Mental Health was rated on a 0 to 3 scale that assesses how many days respondents had felt little interest, felt down, or was unable to stop worrying over the course of a month. 0 indicated the respondent had not felt any of the negative feelings listed, 1 indicated the respondent felt the negative feelings several days during the month, 2 indicated the respondent had felt the negative feelings more than half of the month, and 3 indicated the person had felt them every day of the month. The second variable was neighborhood type. The researchers based the neighborhood type of median incomes and identified which neighborhoods had been gentrified based on increased median household income, college-educated residents, median owner-occupied housing value, and rent. The third variable was economic vulnerability. This was indicated to researchers based on who was on Medicaid due to its requirements of older adults with low incomes and few financial assets. The research adjusted for certain characteristics that could affect health and mental health including the number of diagnosed conditions, limitations of daily activity, having a regular doctor, number of neighborhood problems, size of social network, and participation restrictions in social gatherings.

The researchers of this study used two methods of data comparison to limit selection bias and assess how the exposure of neighborhood types could affect older adults. The first data comparisons method used was to match the participants with personal characteristics (years at current address, location of birth, educational attainment, number of children, etc) that influenced neighborhood selection. The second design used a linear regression model to compare respondents in gentrified neighborhoods versus respondents in low-income neighborhoods and respondents in gentrified neighborhoods versus respondents in middle- and high-income neighborhoods.

Table 1. Characteristics of Selected Sample From 2011 Wave of National Health and Aging Trends Study (N = 6810)

	Gentrifying (n = 153) ^a		Low-income (n = 1,416) ^a		Moderate-to-high income (n = 5,241) ^a	
	Economically vulnerable (n = 47)	Higher income (n = 101)	Economically vulnerable (n = 383)	Higher income (n = 990)	Economically vulnerable (n = 596)	Higher income (n = 4,517)
	M (SD)/n (%)	M (SD)/n (%)	M (SD)/n (%)	M (SD)/n (%)	M (SD)/n (%)	M (SD)/n (%)
Self-rated health	1.83 (1.07)	1.92 (1.18)	1.49 (1.08)	1.98 (1.09)	1.59 (1.08)	2.33 (1.09)
Mental health (PHQ-4)	3.26 (3.21)	2.11 (2.99)	2.97 (2.91)	2.05 (2.49)	3.05 (3.24)	1.74 (2.34)
Age	78.72 (8.19)	78.56 (8.13)	77.93 (7.86)	77.42 (7.54)	78.16 (8.22)	77.07 (7.68)
Years at current address	20.21 (17.00)	30.87 (18.98)	20.77 (18.32)	27.51 (17.88)	18.26 (17.53)	23.15 (17.88)
Born in US	34 (72.34%)	93 (92.08%)	287 (74.93%)	888 (89.70%)	418 (70.13%)	4,121 (91.25%)
High school grad	12 (25.53%)	64 (63.37%)	142 (37.08%)	661 (66.84%)	240 (40.68%)	3,695 (81.87%)
Female	30 (63.83%)	65 (64.36%)	254 (66.32%)	603 (60.91%)	390 (65.44%)	2,476 (54.82%)
Own home (yes)	16 (34.04%)	75 (74.26%)	129 (33.77%)	712 (71.99%)	250 (42.23%)	3,718 (82.62%)
Race/ethnicity						
White	5 (10.64%)	40 (39.60%)	51 (13.35%)	403 (40.83%)	250 (42.02%)	3,721 (82.49%)
African American	29 (61.70%)	51 (50.50%)	239 (62.57%)	489 (49.54%)	207 (34.79%)	511 (11.33%)
Latino (any race)	8 (17.02%)	8 (7.92%)	60 (15.71%)	74 (7.50%)	100 (16.81%)	185 (4.10%)
Other	5 (10.64%)	2 (1.98%)	32 (8.38%)	21 (2.13%)	38 (6.39%)	94 (2.08%)
Income (\$)	14,965.01 (12,055.52)	64,221.79 (395,999.39)	16,146.00 (60,489.21)	38,339.89 (184,679.90)	18,021.43 (50,076.20)	58,727.91 (141,616.20)
# Diagnosed conditions	2.77 (1.70)	2.88 (1.64)	2.94 (1.71)	2.66 (1.58)	3.04 (1.78)	2.51 (1.56)
# Limitations in ADLs	1.23 (1.78)	1.00 (1.53)	1.45 (1.88)	0.89 (1.43)	1.43 (1.85)	0.64 (1.25)
Has regular doctor	44 (93.62%)	97 (96.04%)	359 (93.73%)	934 (94.44%)	567 (95.13%)	4,318 (95.64%)
# Neighborhood problems	0.66 (0.96)	0.55 (1.01)	0.79 (1.10)	0.48 (0.93)	0.44 (0.88)	0.14 (0.51)
# in social network	1.76 (1.14)	2.04 (1.47)	1.57 (1.16)	1.84 (1.27)	1.80 (1.23)	1.98 (1.30)
Any participation restriction	11 (23.40%)	26 (25.74%)	125 (32.64%)	226 (22.83%)	202 (33.89%)	761 (16.85%)

Note: Statistically significant bivariate comparisons between economically vulnerable and higher-income respondents $p < .05$: (a) gentrifying neighborhoods: "mental health," "years at current address," "born in US," "high school graduate," "own home," "White," and "other race"; (b) low-income neighborhoods: all were significant except "age" and "has regular doctor"; and (c) moderate-to-high-income neighborhoods: all were significant except "has regular doctor." ADL = activities of daily living.

^aThere are discrepancies in sample size within a neighborhood type. For example, in gentrifying neighborhoods, columns add up to only 148 because of missing data on Medicaid receipt.

Table 2. Linear Regression of Neighborhood Gentrification on Self-Rated Health

	Gentrifying vs low-income				Gentrifying vs moderate-to-high income			
	Economically vulnerable		Higher income		Economically vulnerable		Higher income	
	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI
Gentrification	1.81***	1.10, 2.51	-0.09	-0.75, 0.56	0.58	-1.66, 2.82	-0.05	-0.60, 0.49
Age	-0.02*	-0.03, -0.00	0.00	-0.00, 0.01	0.01	-0.00, 0.02	-0.00	-0.01, 0.00
Years at current address	0.00	-0.01, 0.01	-0.00	-0.01, 0.00	-0.01*	-0.01, -0.00	-0.00*	-0.00, -0.00
Born in U.S.	0.66**	0.20, 1.13	0.25*	0.01, 0.50	-0.18	-0.41, 0.05	0.00	-0.16, 0.17
High school grad	0.13	-0.17, 0.43	0.09	-0.06, 0.25	0.24	-0.02, 0.49	0.31***	0.20, 0.42
Own home	0.39*	0.06, 0.72	0.26**	0.11, 0.41	0.41**	0.18, 0.64	0.10	-0.01, 0.20
Female	0.15	-0.09, 0.39	0.16*	0.04, 0.28	0.02	-0.19, 0.24	0.06*	0.00, 0.12
Race/ethnicity (white ref)								
African American	-0.66**	-1.02, -0.29	-0.34***	-0.47, -0.20	-0.13	-0.44, 0.19	-0.24***	-0.34, -0.15
Other	-0.23	-0.78, 0.31	-0.16	-0.53, 0.20	-0.69***	-1.06, -0.32	-0.21	-0.44, 0.03
Latino	-0.15	-0.71, 0.40	-0.41**	-0.65, -0.17	-0.47**	-0.82, -0.13	-0.35***	-0.50, -0.19
Income (logged)	-0.03	-0.09, 0.04	0.04	-0.00, 0.08	0.01	-0.03, 0.05	0.06***	0.03, 0.09
# Diagnosed conditions	-0.15***	-0.21, -0.08	-0.20***	-0.24, -0.16	-0.20***	-0.26, -0.14	-0.25***	-0.27, -0.23
# Limitations in ADLs	-0.10*	-0.18, -0.02	-0.16***	-0.22, -0.11	-0.17***	-0.24, -0.11	-0.23***	-0.26, -0.19
Has regular doctor	0.11	-0.52, 0.73	0.04	-0.23, 0.31	-0.28	-0.66, 0.11	-0.09	-0.22, 0.04
# Neighborhood problems	0.06	-0.09, 0.20	-0.01	-0.09, 0.07	-0.04	-0.11, 0.04	-0.03	-0.09, 0.03
# in social network	0.04	-0.03, 0.11	0.04	-0.01, 0.09	0.13*	0.05, 0.20	0.05***	0.03, 0.07
Any participation restrictions	-0.60***	-0.92, -0.28	-0.41***	-0.59, -0.23	-0.20	-0.44, 0.04	-0.30***	-0.40, -0.21
_cons	3.12***	1.74, 4.50	1.64	0.97, 2.31	1.68*	0.38, 2.99	2.56***	2.05, 3.07
Rho	-0.78	-0.91, -0.54	0.04	-0.23, 0.31	-0.19	-0.89, 0.79	-0.02	-0.24, 0.20

Note: We measured gentrification's effects using survey weights using svy tregress in Stata 14 to calculate the linearized standard errors. ADL = activities of daily living; Coef = coefficient; CI = confidence interval.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Recorded Data and Analysis

Table 1 shows that older adults with

higher incomes were more likely to

have better mental health live longer at

their current address, live longer at

their current address, and have higher

educational attainment than their

lower-income counterparts.

There was not a reported significant

difference in health based on economic

vulnerability. Of the participants living

in low-income and moderate-high

income, the higher-income older adults

reported better mental and physical

health status, fewer issues in their

Table 3. Linear Regression of Neighborhood Gentrification on Mental Health (PHQ-4)

	Gentrifying vs low-income				Gentrifying vs moderate-to-high income			
	Economically vulnerable		Higher income		Economically vulnerable		Higher income	
	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI	Coef.	95% CI
Gentrification	0.74	-2.07, 3.56	3.62***	2.84, 4.41	4.79***	2.79, 6.78	3.64***	2.87, 4.41
Age	-0.03	-0.08, 0.02	-0.03	-0.06, 0.00	-0.04	-0.08, 0.01	-0.02**	-0.03, -0.01
Years at current address	0.00	-0.02, 0.02	-0.01	-0.02, 0.01	0.01	-0.01, 0.03	-0.00	-0.00, 0.00
Born in U.S.	-2.31***	-3.33, -1.29	0.17	-0.59, 0.94	-0.71	-1.50, 0.07	0.01	-0.30, 0.32
High school grad	-0.38	-1.08, -0.32	-0.12	-0.60, 0.35	-0.41	-1.01, 0.20	-0.33**	-0.55, -0.11
Own home	-0.55	-1.20, 0.11	0.20	-0.35, 0.75	-0.45	-1.05, 0.14	-0.31*	-0.59, -0.03
Female	-0.18	-0.81, 0.45	0.31	-0.12, 0.73	0.01	-0.80, 0.80	0.28***	0.13, 0.42
Race/ethnicity (White ref)								
African American	0.23	-0.51, 0.98	-0.28	-0.74, 0.18	-0.55	-1.28, 0.17	-0.34*	-0.64, -0.04
Other	-1.86**	-3.14, -0.59	-0.15	-0.86, 0.55	-0.71	-1.88, 0.47	0.00	-0.41, 0.41
Latino (any race)	-1.10	-2.27, 0.26	0.66	-0.25, 1.58	-0.37	-1.39, 0.65	0.01	-0.59, 0.61
Income (log)	-0.02	-0.17, 0.13	-0.07	-0.23, 0.08	-0.15*	-0.27, -0.02	-0.04	-0.09, 0.01
# Diagnosed conditions	0.46***	0.25, 0.68	0.11	-0.01, 0.23	0.39***	0.22, 0.56	0.21***	0.16, 0.26
# Limitations in ADLs	0.31*	0.03, 0.60	0.51***	0.30, 0.73	0.50***	0.32, 0.68	0.58***	0.48, 0.67
Has regular doctor	0.72	-0.12, 1.57	-0.14	-0.62, 0.34	0.12	-1.10, 1.33	-0.18	-0.51, 0.14
#Neighborhood problems	-0.10	-0.41, 0.22	0.01	-0.18, 0.19	0.05	-0.22, 0.25	0.06	-0.05, 0.17
# in social network	0.08	-0.12, 0.29	-0.02	-0.11, 0.08	0.02	-0.22, 0.31	0.00	-0.04, 0.05
Any participation restrictions	2.02***	1.13, 2.90	0.70*	0.17, 1.23	1.04**	0.40, 1.68	0.59***	0.36, 0.82
_cons	4.67*	0.96, 8.37	3.57*	0.36, 6.78	5.30**	1.65, 8.94	2.98***	1.95, 4.02
Rho	0.03	-0.51, 0.56	-0.81	-0.89, -0.67	-0.76	-0.90, -0.48	-0.77	-0.86, -0.65

Note: We measured gentrification's effects using survey weights using svy etregress in Stata 14 to calculate the linearized standard errors. ADL = activities of daily living; Coef = coefficient; CI = confidence interval.

* $p < .05$; ** $p < .01$; *** $p < .001$.

respective neighborhoods, and low levels of participation restriction in social engagement than their economically vulnerable counterparts living in similar neighborhoods. Table 2 indicates there was not a major difference in self-rated physical health between the different groups.

Table 3 indicates that economically

vulnerable older adults living in gentrified neighborhoods had a much higher score on the self-rated mental health indicator test than older adults living in low-income neighborhoods.

High-income older adults in gentrified neighborhoods also had a higher score on the self-rated mental indicator test than high-income older adults living in moderate- or high-income neighborhoods.

Conclusion

The results of this study contribute to a larger understanding of how gentrification impacts older adults. The particular concern for this study was the effects gentrification has on economically vulnerable older adults. The findings of this study indicate that both high-income and economically vulnerable adults “are disadvantaged in terms of depressive and anxiety symptoms compared to their counterparts in moderate-to-high-income neighborhoods”⁹. The finds of this study also indicate that high-income individuals in gentrified neighborhoods experience worse mental health than older adult residents of low-income neighborhoods. This

⁹ Richard J Smith, Amanda J Lehning, and Kyeongmo Kim, “Aging in Place in Gentrifying Neighborhoods: Implications for Physical and Mental Health,” *The Gerontologist* 58, no. 1 (2017): pp. 31, <https://doi.org/10.1093/geront/gnx105>.

study shows that high-income older adults are also affected negatively by neighborhood change, so the cause of the deterioration of mental health in older adults is not solely based on economic difficulty. The researchers state that more data and research is needed to further understand this problem. The policy recommendations from the researchers include better infrastructure targeted to making older adults more comfortable in the neighborhoods they will be living in for the rest of their lives.

Neighbourhood identification buffers the effects of (de-)gentrification and personal socioeconomic position on mental health¹⁰

Introduction and Methods

The authors of this research article hypothesizes that, “perceived uncertainty relating to reduced access to local services and potential displacement could have a greater negative effect on the mental health of affluent older adults”¹¹. The researchers of this article look at both gentrification and the opposite effect de-gentrification. De-gentrification leads to an increased concentration of poverty in a more previously affluent area, which can be associated with a poorer mental health among residents. In previous findings the researcher found that any type of neighborhood change can be associated with changes in mental health. The researchers suggest that changes in mental health may be due to social status anxiety, especially in the case of wealthier people who tend to put more pressure on their social identity.

Health can be impacted by social connectedness and the correlation is frequently overlooked. Social connectedness plays a key role in the health of individuals. Neighborhood

¹⁰ Polly Fong et al., “Neighbourhood Identification Buffers the Effects of (De-)Gentrification and Personal Socioeconomic Position on Mental Health,” *Health & Place* 57 (2019): pp. 247-256, <https://doi.org/10.1016/j.healthplace.2019.05.013>.

¹¹ Polly Fong et al., “Neighbourhood Identification Buffers the Effects of (De-)Gentrification and Personal Socioeconomic Position on Mental Health,” *Health & Place* 57 (2019): pp. 247, <https://doi.org/10.1016/j.healthplace.2019.05.013>.

context plays a large role in the social connectedness of individuals. Neighborhood context is dependent on the residents within the neighborhood and their interactions. In gentrification and de-gentrification neighborhood context is completely changed making it difficult for the original members to interact with the changing context of the neighborhood.

Neighborhood identification, “internalised sense of social connectedness bounded by the vicinity of one's home that encompasses feelings of belonging in one's local community”¹², is another key part of changing neighborhoods effects on mental health. Neighborhood identification could potentially bring neighbors together creating more social interaction.

The researchers of this study aim, “ **to test the capacity for neighbourhood identification to buffer the ill-effects of (de-)gentrification processes on residents' mental health**”¹³. This test takes place in Australia after the Australian housing boom and subsequent burst in 2011, in which there was rapid residential construction. This study examines how long-term residents are impacted by current gentrification and de-gentrification occurring in their neighborhoods. There are three main hypotheses are: de-gentrification and gentrification both buffer immediate changes in mental-health do to the positives aspects of both, change in neighborhood identification should indicate positive or negative changes in mental health, and that there will be a three-way interaction between neighborhood identification, change to (de-)gentrified, and household income. The figure below represents the hypothesis

¹² Polly Fong et al., “Neighbourhood Identification Buffers the Effects of (De-)Gentrification and Personal Socioeconomic Position on Mental Health,” *Health & Place* 57 (2019): pp. 249, <https://doi.org/10.1016/j.healthplace.2019.05.013>.

¹³ Polly Fong et al., “Neighbourhood Identification Buffers the Effects of (De-)Gentrification and Personal Socioeconomic Position on Mental Health,” *Health & Place* 57 (2019): pp. 249, <https://doi.org/10.1016/j.healthplace.2019.05.013>.

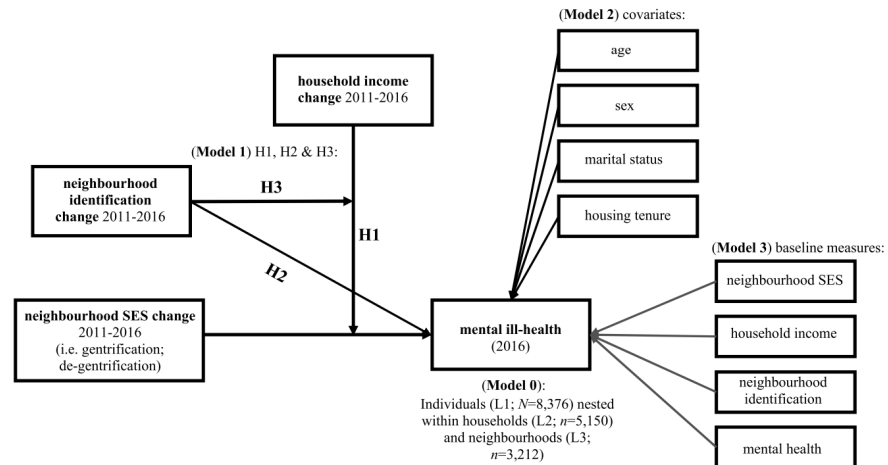


Fig. 1. Schematic diagram of hypotheses 1 (H1), H2, and H3 (Model 1), adjusted for covariates (Model 2) and baselines (Model 3).

The sample used in this study were respondents to the Income and Labour Dynamics in Australia (HILDA) survey. There was a total of 5150 households that responded to the survey. The household population ranged from 1-5 and the respondents had a median age of 49 years. The number of residents that responded to the survey ranged from 1 to 30.

The survey measured levels of mental health by self-reporting on a series of questions about how the respondents had been feeling over the last month. The scores ranged from 0-100, a score below 53 indicated poor mental health.

The change in Neighborhood to either gentrified or de-gentrified was taken from census data. Then put on a scale of -9 to 9, -9 was peak gentrification and 9 indicated peak gentrification. 21.9% resided in a gentrified neighborhood and 27.6% resided in a de-gentrified neighborhood. 0 indicted no major change, 50% of the respondents resided in a neighborhood ranked at 0.

Neighborhood identification was self-reported on a scale of 0-10, ranking the individuals feeling of belonging to their community, 0 being no belonging and 10 being a strong feeling of belonging.

Recorded Data and Analysis

Table 1
Zero-order correlations.

	1	2	3	4	5	6	7	8	9	10
1. Mental ill-health (1 = score < 53, 0 > 52)	1									
2. Neighbourhood identification 2011	-.17**	1								
3. Neighbourhood identification change	-.06**	-.48**	1							
4. Household income 2011	-.10**	.05**	-.01	1						
5. Household income change	.01	-.02	.01	-.33**	1					
6. Neighbourhood SES 2011	-.10**	.05**	.02	.39**	-.03**	1				
7. Neighbourhood SES change	-.01	.02	.02	-.01	-.004	-.16**	1			
8. Age	-.07**	.09**	.04**	-.36**	-.09**	-.05**	.06**	1		
9. Sex (1 = male, 0 = female)	-.04**	-.03**	.01	.07**	-.001	.01	-.01	-.004	1	
10. Marital status (1 = married, 0 = unmarried)	-.10**	.06**	.05**	.29**	.04**	.10**	-.04**	.07**	.08**	1
11. Tenure (1 = own, 0 = rent)	-.12**	.10**	.02*	.25**	-.02	.21**	-.01	.16**	.02	.19**

** $p < .01$; * $p < .05$.

The data presented in Table 1 indicated the poor mental health had a strong correlation with neighborhood identification levels. The table also indicates a two-way interaction between increases and decreases of household income change with relation to de-gentrification, but not gentrification. Showing that those who experience negative changes in household income in the contest of de-gentrification had a negative impact on mental health.

Table 2
Mixed effects logistic regression predicting mental ill-health.

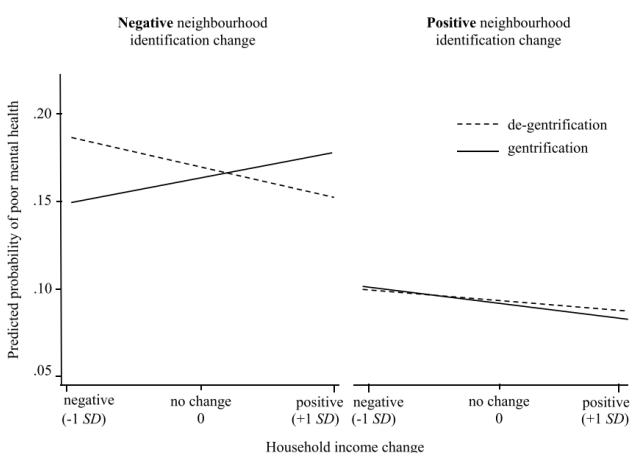
	Model 0		Model 1		Model 2		Model 3	
	OR	(SE) 95%CI	OR	(SE) 95%CI	OR	(SE) 95%CI	OR	(SE) 95%CI
Fixed part:								
_cons	.09***	.01 [.08, .11]	.09***	.01 [.08, .11]	.42***	.06 [.31, .56]	224.50***	74.31 [117.34, 429.51]
Neighbourhood identification (NI) change			.91***	.02 [.87, .94]	.92***	.02 [.89, .96]	.79***	.02 [.95, .82]
Household income (HI) change			1.02	.02 [.98, 1.07]	1.02	.02 [.98, 1.06]	0.97	.02 [.93, 1.01]
Neighbourhood SES (NSES) change			0.98	.04 [.89, 1.06]	0.96	.04 [.88, 1.05]	0.97	.05 [.88, 1.05]
NI change x HI change			0.99	.01 [.97, 1.09]	0.99	.01 [.97, 1.06]	0.98	.01 [.97, 1.00]
NI change x NSES change			1.02	.02 [.97, 1.06]	1.01	.02 [.97, 1.06]	1.01	.02 [.99, 1.08]
HI change x NSES change			1.04*	.02 [1.00, 1.08]	1.04*	.02 [1.00, 1.08]	1.04+	.02 [.99, 1.08]
NI change x HI change x NSES change			.97*	.01 [.96, .99]	.98*	.01 [.96, .99]	.98*	.01 [.96, .99]
Age					.99***	.00 [.98, .99]	.99***	.00 [.98, .99]
Sex: male = 1					.78**	.06 [.67, .90]	.85+	.07 [.72, 1.00]
Married/domestic partnership = 1					.59***	.05 [.50, .69]	0.87	.08 [.72, 1.05]
Tenure: own = 1					.47***	.05 [.39, .58]	0.87	.10 [.69, 1.08]
Neighbourhood Identification 2011							.78***	.02 [.75, .82]
Household Income 2011							.94**	.02 [.90, .98]
Neighbourhood SES 2011							.96*	.02 [.93, .99]
Mental Health 2011							.94***	.00 [.93, .94]
Random part:								
L2 Household: var(_cons)	1.60	.28 [1.13, 2.25]	1.47	.28 [1.01, 2.13]	1.30	.26 [.88, 1.92]	0.84	.25 [.47, 1.50]
L2 ρ (intraclass correlation)	0.33	.03 [.26, .41]	0.31	0.04 [.23, .39]	0.28	0.04 [.21, .37]	0.20	0.05 [.12, .31]
LR χ^2	67.8		41.72		166.78		1237.22	
p	< .001		< .001		< .001		< .001	

*** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$.

Table 2 and the graph associated with the data indicate that people with positive household income change living in gentrified neighborhoods had the highest risk of ill-mental

health if they become disidentified with their neighborhood. The lowest risk of ill-mental health were those in the study who still identified with their neighborhood or had an increase of neighborhood identification. People who had a negative impact on income suffered more greatly when neighborhoods were de-gentrified versus gentrified.

Conclusion



The findings of this study show that people's mental health worsens when degentrification occurs no matter the positive or negative change in household income. The study also suggests that "the mental health of more affluent older residents is negatively impacted by neighbourhood gentrification processes"¹⁴. Researchers suggest

that this could potentially be caused by a larger financial strain on affluent retired adults. This conclusion has not been fully tests by researched and was recommended to be taken lightly due to lack of research. The main conclusion of this research indictes that neighborhood identification is a major impact on how neighborhood change effects mental ill-health, "neighbourhood identification buffered all residents from the threats to mental health posed by gentrification and de-gentrification, including those who were particularly at risk"¹⁵. These findings suggest that finding community within a neighborhood will buffer the effects of negative mental health change.

¹⁴ Polly Fong et al., "Neighbourhood Identification Buffers the Effects of (De-)Gentrification and Personal Socioeconomic Position on Mental Health," *Health & Place* 57 (2019): pp. 253, <https://doi.org/10.1016/j.healthplace.2019.05.013>.

¹⁵ Polly Fong et al., "Neighbourhood Identification Buffers the Effects of (De-)Gentrification and Personal Socioeconomic Position on Mental Health," *Health & Place* 57 (2019): pp. 253, <https://doi.org/10.1016/j.healthplace.2019.05.013>.

Analysis

_____The findings of the research shown in the literature review indicate that there is a negative impact on mental health associated with the rapid neighborhood change that comes with gentrification or de-gentrification. For the purpose of this analysis, the primary focus will be on gentrification and its impacts on mental health in the older adult(65 years and older) demographic. This analysis will synthesize the data collected by the research shown in the literature review.

In the first article, **Impact of gentrification on adult mental health**, the study indicates that people with low-incomes and long-term residents of neighborhoods have the most significant negative mental health change due to the effects of gentrification. This study does not indicate major differences in negative or positive mental health change based on age in correlation with neighborhood type. The major difference noted in mental health effects based on age were the differences between the youngest participants in the survey versus the oldest. The younger population was much less likely to experience negative impacts on mental than the older population.

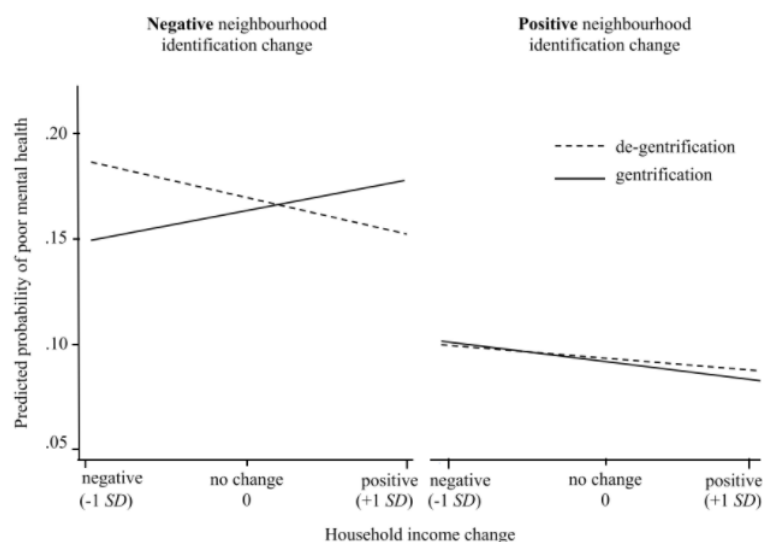
TABLE 1 Characteristics of adults aged 18 and over living in southern California Counties by neighborhood type,^a n = 43 815

	Low-income and gentrified n = 3036	Low-income and not gentrified n = 9210	Middle- to high-income and upscaled n = 8849	Middle- to high-income and not upscaled n = 22 720
Age category				
18-25	9.7	11.1	6.3	7.6
26-45	23.8	25.2	19.2	19.3
46-64	31.5	33.6	36.7	36.9
65+	35.0	30.2	37.7	36.2

The second article in the literature review, **Aging in Place in Gentrifying Neighborhoods: Implications for Physical and Mental Health**, showed major mental health implications for all older adults living in areas that experienced change due to gentrification or upscaling. Economically vulnerable older adults showed a greater risk of negative mental health,

but the economically stable older adults also showed some risk of negative mental health due to gentrification. The findings of this study require a more in-depth examination to better grasp the full effects gentrification has on the older adult population.

In the final article of the literature review, **Neighbourhood identification buffers the effects of (de-)gentrification and personal socioeconomic position on mental health**, identify a key factor in negative impacts on mental health to be neighborhood identification. The graphs indicate that if a person identifies with their neighborhood more after it is gentrified or de-gentrified there will be a positive impact on mental health. However, if an older adult



identified less with their neighborhood they were likely to experience negative impacts on mental health.

In summation, the data collected from the literature review reflects that changes in neighborhoods greatly impact the mental health of older adults. Economically vulnerable older adults seem to be more negatively impacted due to the increased stress of rising cost to reside in their neighborhoods along with the loss of neighborhood identification. Economically stable older adults are also impacted due to loss of neighborhood identification. These findings indicate

that neighborhood identification plays a large role in the mental health of older adults and loss of neighborhood identification negatively impacts their mental health.

Conclusion

_____Mental health in older adults is not typically a major topic of research or conversation.

All articles included in the literature review state that more research is required to better understand the full effects gentrification has in correlation with mental health in older adults.

However, the articles included do indicate a correlation between gentrification and changes in mental health in older adults. This shows that there is another level of negative effects and in some cases positive effects of gentrification. Most gentrification research examines the effects on people forced out of homes and less on the effects of people who stay in their homes after their neighborhood has been gentrified. The combination of little research done on mental health in older adults and people who stay in their neighborhoods after gentrification has occurred suggests a need for broader research into these topics. In order to enact a policy to mitigate the negative effects of gentrification on older adults more research must be done on the specific type of neighborhood change and the characteristics of neighborhood change that make older adults feel alienated from their neighborhoods.

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