Racialized Reshuffling: Urban Change and the Persistence of Segregation in the Twenty-First Century

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Abstract

The literature on the persistence of racial residential segregation in the United States has made significant progress by moving beyond traditional explanations—socioeconomic differences, preferences, and discrimination—to focus on the complex ways in which these factors interact with the multistage process of residential sorting. Dramatic changes in metropolitan landscapes over the past two decades, however, demand an expanded theoretical framework that can account for stability and change. In this article, we review research on contemporary urban changes that offers insights for explaining segregation's persistence amid widespread change. We identify three broad categories of mechanisms that exacerbate inequities by race and class in residential sorting processes: resource inequality, hierarchy endurance, and consolidated power. We describe developments in measuring segregation and new data and methods for studying urban change that enable researchers to consider the contemporary mechanisms, forms, and scales of segregation in the twenty-first century.

INTRODUCTION

Residential segregation—the extent to which people of different groups live separately from each other—remains a defining feature of the US landscape. Segregation facilitates differences in resources, opportunities, support, and justice across urban space, playing a critical role in perpetuating inequality. A large body of research has documented the detrimental consequences of residential segregation and resulting neighborhood inequality (Charles 2003, Sampson et al.

2002, Sharkey & Faber 2014), and works by Massey & Denton (1993), Rothstein (2017), and Taylor (2019) have elucidated the racist historical policies that facilitated the rise of racial segregation and cemented divisions across space. Although Black-White segregation reached its peak in the mid-twentieth century, it remains stubbornly high, despite major legislation passed in the civil rights era that made de jure segregation illegal. De facto segregation has remained, and neighborhood inequality has been remarkably durable (Rugh & Massey 2014, Sampson 2012).

Charles's (2003) review of residential segregation published in this journal outlined three major explanations of the persistence of residential segregation in the US: socioeconomic differences, preferences, and discrimination. The first argues that socioeconomic differences between ethnoracial groups explain ethnoracial differences in neighborhood quality (Charles 2003). The second argues that segregation persists owing to distinct preferences between ethnoracial groups about the race and ethnicity of neighbors that people want to live with or avoid, exhibiting a racial hierarchy of preferences—favoring Black neighbors the least, followed by Latinx and then Asians, and favoring White neighbors the most (Charles 2006, Krysan et al. 2009, Lewis et al. 2011). The third argues that discriminatory processes that take place throughout the housing market (such as the devaluation of places based on race, actions by landlords and realtors, and differentiated lending practices) explain segregation's persistence (Korver-Glenn 2021, Roscigno et al. 2009, Ross & Turner 2005). While past scholarship has viewed these explanations as competing, mutually exclusive, or additive (Krysan & Crowder 2017), the field has only recently begun to move beyond these "big three" explanations and focus on the ways in which these three factors interact and entail more complex processes than these explanations elucidate.

Despite recent progress in explaining segregation's persistence, the dramatic changes in metropolitan landscapes across the United States over the past 20 years demand a theoretical framework that can account for stability and change. Based on our review of research and theory on residential segregation, the literature has largely overlooked the massive changes taking place by either writing them off as rare occurrences or ignoring them. The US urban landscape that was once divided neatly into extremely unequal Black and White neighborhoods and ethnic enclaves now exhibits a variety of ethnoracial and class compositions. While many of these stably segregated places persist, many are also changing.

Cities[1] have become increasingly desirable places to live among populations that once abandoned them, while suburbs are increasingly less White and wealthy than in the past. Gentrification entails the reversal, reinvestment, and in-migration of middle- and upper-class residents to previously disinvested and declining urban neighborhoods (Smith 1998, p. 198-9), and it is increasingly widespread, often spurring racial change. At the same time, many places have become increasingly diverse and multiethnic as immigration increased. Major shifts in public housing policy, the expansion of school choice, declines in crime, and the rise of nonprofits have substantially altered urban contexts, while climate change and financial crises disrupt them.

The persistence of segregation and neighborhood inequality is fundamentally dependent on how and why some places change and the emergent consequences of such changes. These changes reshuffle people and reshape places, offering opportunities to reduce segregation; but research persistently demonstrates that these changes occur in racialized ways, reproducing segregation. Taken together, the literature underscores the various ways in which racialized processes are deeply inscribed in the US housing market, perpetuating segregation despite widespread changes.

In this article, we review research on different processes that have transformed the urban landscape in the twenty-first century, focusing on works that offer insights on racial residential segregation in the United States and explanations of its persistence since Charles's (2003) review.[2] We first show broad trends of racial residential segregation and describe recent developments in the theoretical frameworks explaining the persistence of residential segregation.

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[1] When we refer to cities, we typically mean large cities in metropolitan areas, and we refer to suburbs as the remainder of the metropolitan areas. We recognize that these terms encompass a variety of places.

[2] Segregation in other domains of life, such as schools, the workplace, social networks, and everyday activities, has been covered in other volumes of this journal (Cagney et al. 2020, DiTomaso et al. 2007, McPherson et al. 2001, Reardon & Owens 2014), and a large body of work on the contemporary urban changes that we cover in this article has accompanying review articles (Brown-Saracino 2017, Flippen & Farrell-Bryan 2021, Klinenberg et al. 2020, Lacy 2016, Pattillo 2013).

Then, we review empirical research that highlights three categories of mechanisms explaining why segregation persists despite changes in contemporary cities. Next, we describe new kinds of data, measures, and methods that can advance the study of urban change and residential segregation. We end with a discussion on expanding the study of segregation to incorporate widespread change for future research.

TRENDS IN SEGREGATION

Over the past two decades, shifts in the spatial configuration of racial groups have been slow, based on traditional measures of segregation. The top row of **Figure 1** shows trends in the dissimilarity index (a measure of how unevenly distributed two groups are across census tracts within metropolitan areas) between each major ethnoracial group and non-Hispanic White residents since 1980 for entire metro areas and separately for central cities and the suburbs.[3] Since 2000, Black-White[4] dissimilarity declined by a small amount, and these changes were driven by central cities rather than suburbs. While Asian-White and Hispanic-White dissimilarity increased in the suburbs before 2000, these measures changed little over the past two decades. Furthermore, Hispanics were consistently more segregated from Whites than Asians until the most recent decade due to this gap closing in the suburbs.[5] Technical details for the results presented in the tables and figures are in the Supplemental Appendix.[6]

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[3] Central cities are comprised of tracts designated as principal cities by the US Census Bureau in 2010; suburbs comprise the remainder of the census tracts in the metropolitan area or division. For more information, see the Supplemental Appendix.

[4] White, hereafter, refers to non-Hispanic White.

[5] A report by the University of California–Berkeley's Othering and Belonging Institute (Menendian et al. 2021) documents increases in overall racial segregation across most metropolitan areas using the divergence index. Elbers (2021b) demonstrates that these changes are largely explained by growing racial diversity owing to the growth of Asians and Hispanics, the divergence index's sensitivity to growing diversity, and changing racial identities.

[6] Data and code to reproduce the results in the tables and figures are available at https://purl.stanford.edu/sy352sf3635.
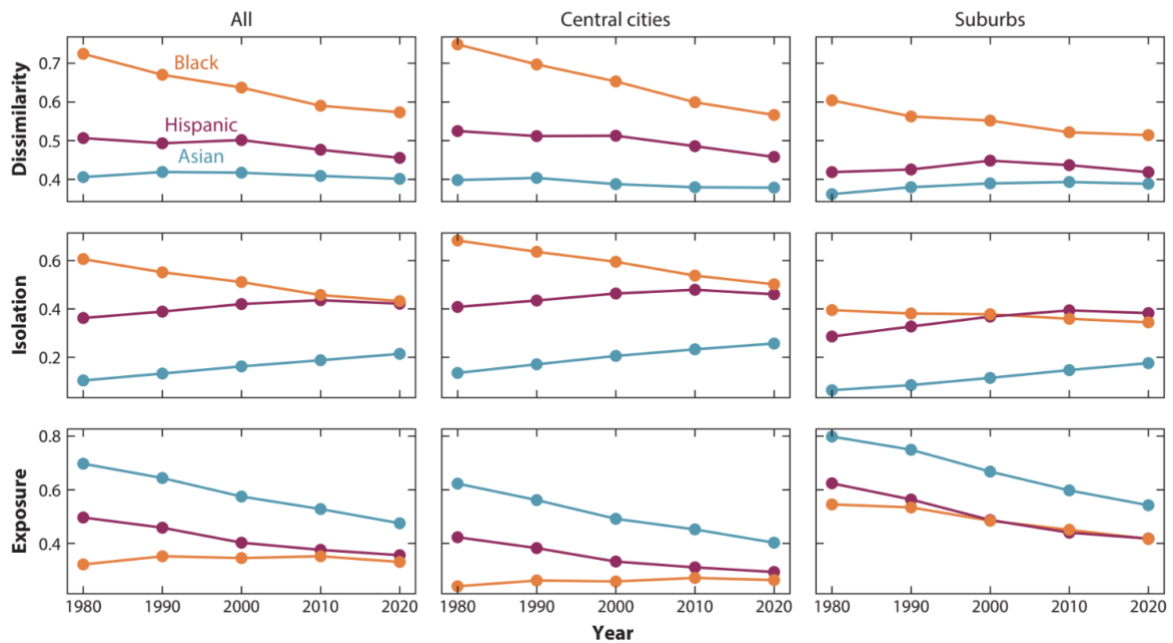
Figure 1 Metropolitan-level segregation by indices and urbanicity, 1980–2020. Dissimilarity and exposure are reported in reference to non-Hispanic White residents. Data are from the 1970–2020 decennial Censuses. Trends shown are population-weighted average levels of isolation and exposures for 374 metropolitan statistical areas. Estimates are only calculated in places with at least 1,000 members of the racial group.

Figure 1 also depicts segregation trends based on the isolation and exposure indices. The isolation index measures the degree to which one group resides in the same census tracts as other members of their group; exposure measures the degree to which one group resides in the same census tracts as another group. Although Black residents were historically the most isolated group, Hispanic residents are now as isolated as Black residents, and Asian isolation has also grown, in part due to the increasing size of the Asian and Hispanic populations. Black isolation and exposure to White residents decreased slightly in the past decade, indicating that Black residents are increasingly living in proximity to other non-White groups. While cities are integrating at a pace that exceeds that of suburbs, at least for Black residents (Fischer 2008), such trends may reflect a pathway toward a new spatial segregation, as integrated urban neighborhoods become increasingly segregated over time (Bader & Warkentien 2016).

Observing rising income segregation and persistent links between race and socioeconomic status (SES), Massey et al. (2009, pp. 87–88) argue that "it will be the interaction of race-

ethnicity and class that becomes the key nexus in defining urban spatial structure and determining the location of people within it." Table 1 reports that income segregation has increased only slightly since 1990, although this increase is driven by larger gains among Black and Hispanic households, likely those with children (Owens 2016, Reardon et al. 2018, Logan et al. 2020).[7] For non-White households, income segregation remains higher than for White households, consistent with others' findings (Reardon et al. 2018, Logan et al. 2020). These trends suggest that more affluent non-White residents continue to move into higher-income neighborhoods, leaving behind poor, non-White residents.

Group	Measure[b]	1990	2000	2015–2019
All households	n	374	374	374
	H^R	0.0904	0.0926	0.0936
	R^R	0.1023	0.1054	0.1059
White households	n	373	373	374
	H^R	0.0777	0.0773	0.0715
	R^R	0.0882	0.0876	0.0805
Black households	n	93	103	120
	H^R	0.1033	0.1068	0.1155
	R^R	0.1168	0.1176	0.1284
Hispanic households	n	46	64	94
	H^R	0.0786	0.0819	0.0985
	R^R	0.0897	0.0928	0.1091
Asian households	n	4	4	6
	H^R	0.1242	0.1256	0.1087
	R^R	0.1412	0.1428	0.1240

Table 1 Bias-corrected[a] estimates of income segregation. [a] All reported values are weighted and have been corrected for sample bias using the method outlined by Reardon et al. (2018). More information is provided in the Supplemental Appendix. [b] n refers to the number of metropolitan statistical areas included in the group's income segregation estimates for a given year. Metropolitan areas with fewer than 200 households per tract on average are dropped. H^R refers to the rank-order information theory index, and R^R refers to the rank-order variance ratio index.

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[7] Our analyses only begin to cover many of the complex patterns of income segregation in the twenty-first century. The Supplemental Appendix offers more details on our analyses; see Reardon et al. (2018) and Logan et al. (2020) for a fuller discussion for measurement challenges associated with these data.

THEORETICAL DEVELOPMENTS ON THE PERSISTENCE OF SEGREGATION

These overall trends illustrate the general persistence of segregation, particularly of Black from White residents, the growing isolation of Hispanic and Asian residents, the converging suburbs, and the increasing importance of segregation by race and class.[8] The literature on segregation has generally focused on explaining this persistence. Krysan & Crowder's (2017) *Cycle of Segregation* offers the most comprehensive theoretical explication to date of this persistence: the social structural sorting perspective, which elucidates how structural mechanisms affect how residents sort into different neighborhoods. This theory builds on growing calls from scholars to treat residential selection as a social process that warrants investigation, rather than viewing it as a statistical nuisance (Sampson 2012).

The persistence of the kinds of neighborhoods in which people live, even after moving and across generations, perpetuates a durable structure of neighborhood inequality (Pais 2020, Sampson 2012, Sharkey 2013). This durability is further perpetuated by sticky neighborhood reputations and stigmas—a process Sampson (2012) calls the looking-glass neighborhood. Elaborating on the selection mechanisms that feed this process, the social structural sorting perspective argues that residential sorting is shaped by perceptions, networks, and information that are structured by a legacy of segregation and are thus biased and incomplete.

This sorting leads to racially stratified mobility and immobility patterns, which, in turn, contribute to the persistence of segregation. While zoning, other land use and housing policies, and discrimination can impede locational attainment for different groups, Krysan & Crowder (2017) argue that biased residential sorting processes can perpetuate the structure of segregation even in the absence of these factors. These biased residential sorting processes intersect with the big three explanations, as networks are influenced by SES, preferences are guided by information at hand and neighborhood perceptions and stigmas, perceptions consider possible discrimination, and so on (Krysan & Crowder 2017).

The social structural sorting perspective incorporates decision sciences into the residential segregation literature: people search for housing in multiple stages, with incomplete and biased information shaping decisions in each stage of the process. Because having complete information

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[8] These broad trends are more nuanced if disaggregated by region or detailed ethnicity (Iceland et al. 2013, 2014) or if segregation is measured between places rather than census tracts (Lichter et al. 2015) or at different spatial scales (Reardon et al. 2008).

is impossible, people rely on varying sources to construct an understanding of their choices. In this choice set formation process (Bruch & Swait 2019), people decide which neighborhoods to search for housing based on factors shaped by a legacy of segregation, such as perceptions of what is affordable, what racial compositions signal about quality, whether they think they will experience discrimination, and which neighborhoods are more affordable and have more amenities, resources, and opportunities (Besbris et al. 2015, Bruch & Swait 2019, Clark & Fossett 2008, Krysan & Crowder 2017). Within one's neighborhood choice set, the search for housing is further conditioned by discrimination, socioeconomic factors, alternative choices, and timing constraints (Krysan & Crowder 2017).

Racial differences in the degree to which residents are forced to move and experience constraints play a key role in structuring residential sorting. Because Black and poor individuals are more likely to experience both formal and informal forced mobility than other groups (Desmond & Shollenberger 2015), these groups are more likely to conduct the residential search process with significant external pressures. Even when residents have access to housing, landlords engage in nonexclusionary housing discrimination—the unequal treatment of residents in existing housing contracts—which can result in the increased likelihood of involuntary mobility (Roscigno et al. 2009).

When people move involuntarily, they are more likely to engage in reactive mobility—where the choice set formation and housing search processes are compressed by the urgent need to find housing quickly (DeLuca et al. 2019)—and often end up in more disadvantaged neighborhoods (Desmond & Shollenberger 2015). The lack of time to look beyond places with which residents are already familiar confines searches to neighborhoods similar to those where they started, resulting in a greater emphasis on housing units and blocks rather than neighborhoods, yielding sorting patterns that reproduce segregation (DeLuca et al. 2019).

Other theoretical developments explaining the persistence of segregation have elucidated the on-the-ground processes by which institutional actors shape residential selection processes. Rosen's (2020) study of housing vouchers underscores how landlords manipulate the residential sorting patterns of voucher holders in Baltimore in ways that keep disadvantaged, minority residents in highly segregated neighborhoods. Korver-Glenn (2021) demonstrates how housing market professionals, including developers, realtors, mortgage lenders, and appraisers, use racist ideologies to reinforce segregation, and Besbris (2020) draws attention to the role of realtors in

shaping neighborhood perceptions and preferences, valuation, and selection processes of affluent homebuyers to perpetuate neighborhood inequality.

Another body of work underscores the role of macrolevel constraints in perpetuating segregation. Massey et al. (2009) argue that, given declines in racial prejudice and explicit discrimination in the housing search process and the growth of middle-class minorities, persistent segregation in the twenty-first century is driven by zoning and land use policy (for a review, see Lens 2022). Rugh & Massey (2014) show how features of the labor market, like the strength of unions and the presence of military bases or universities, can shape the workforce in ways that can tangibly lessen or exacerbate segregation. Owens (2019) demonstrates how segregated housing types and costs structure the possibilities for residential sorting across neighborhoods. While current policies continue to constrain residential sorting, Faber (2020) demonstrates the long-lasting legacy of institutional constraints through the momentum set by the segregationist logic of housing policies established during the early twentieth century and sustained by local and federal policies and private institutions over subsequent decades.

NEIGHBORHOOD CHANGE AND PERSISTENT SEGREGATION

Despite substantial progress in explaining the persistence of segregation, these major theoretical developments barely account for the widespread changes taking place across metropolitan areas. Table 2 shows average demographic and housing characteristics across US metropolitan areas and central cities and suburbs. Asian, Hispanic, and foreign-born populations increased dramatically across metropolitan areas since 1980, especially in central cities, and the share of Black residents in suburban areas steadily grew.[9] In 2019, less than half of central city residents were White—a dramatic shift since 1980. Poverty remains higher in cities than the suburbs but has grown faster in the suburbs, while income has grown faster in cities. As Table 2 shows, housing costs increased substantially and to a much greater extent in cities, such that average housing values and rents in cities now surpass those in the suburbs.

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[9] Lacy (2016) provides explanations of increases in the number of poor people, immigrants, and Black Americans in the suburbs.

Variable[a]	Entire metropolitan statistical areas				Suburbs				Central cities			
	1980	2000	2019	Δ[b]	1980	2000	2019	Δ[b]	1980	2000	2019	Δ[b]
Race, ethnicity, immigration												
Asian	1.40	4.16	5.91	4.52	1.03	3.20	4.81	3.78	1.84	5.56	7.94	6.10
Black	12.58	13.75	13.40	0.82	6.05	8.80	10.18	4.13	20.44	21.01	19.30	-1.15
Hispanic	6.52	12.53	18.26	11.74	4.23	9.44	15.52	11.29	9.26	17.06	23.25	13.98
White	78.74	68.23	59.28	-19.46	88.05	77.31	66.49	-21.56	67.55	54.91	46.11	-21.44
Foreign-born	6.80	11.50	14.64	7.84	5.47	9.17	12.47	7.01	8.38	14.91	18.59	10.21
Immigrated in past 10 years	2.52	5.00	7.69	5.17	1.71	3.65	6.38	4.66	3.48	6.97	10.09	6.60
Age												
Under 18	26.55	25.67	22.83	-3.72	27.26	26.15	23.14	-4.12	25.71	24.97	22.27	-3.43
Over 75	4.06	5.72	6.36	2.30	3.64	5.72	6.66	3.02	4.56	5.72	5.81	1.25
Socioeconomic characteristics												
Below poverty line	11.58	11.82	12.62	1.04	8.26	8.55	10.15	1.89	15.52	16.63	17.15	1.63
Household income (in $1,000s)[c]	69.08	73.71	74.82	5.74	76.21	80.74	79.64	3.43	60.62	63.37	65.97	5.35
Asian	90.51	92.06	82.23	-8.28	102.84	101.63	85.35	-17.48	76.65	77.79	92.56	15.91
Black	61.75	68.87	64.23	2.49	70.07	76.96	73.36	3.29	56.37	58.12	54.49	-1.87
Hispanic	66.44	71.15	72.24	5.80	74.37	77.89	78.13	3.76	59.92	61.21	63.44	3.51
White	81.45	76.27	80.40	-1.06	85.99	82.44	82.82	-3.17	75.59	66.97	75.22	-0.37
Professional	22.85	33.59	38.98	16.12	23.19	34.20	39.46	16.27	22.45	32.69	38.09	15.65
College-educated	17.38	25.78	33.99	16.61	17.28	25.73	33.79	16.51	17.50	25.86	34.36	16.85
Housing characteristics												
Household owners	62.58	65.94	64.82	2.24	70.78	74.32	71.97	1.19	52.84	53.65	51.74	-1.09
Median home value (in $10,000s)[c]	19.69	21.54	29.54	9.85	20.79	22.00	28.06	7.27	18.39	20.85	32.37	13.98

Median rent ($)[c]	801.78	909.02	1091.50	289.72	827.75	928.38	1089.25	261.50	771.23	880.60	1096.85	325.61
Structures more than 30 years old	34.91	48.02	53.61	18.69	28.97	41.73	52.25	23.28	41.91	57.26	56.09	14.17

Table 2 [a] Percent, unless otherwise noted. [b] Δ represents the difference between the 1980 and 2019 values. [c] All dollar values are expressed in 2019 dollars.

How and why does segregation persist despite widespread changes? Scholarship on how cities have changed is now plentiful, but only some explicitly contributes to understanding the persistence of residential segregation and neighborhood inequality. Our discussion of this work is guided by the principles that (*a*) urban processes are interdependent and that (*b*) the spatial scale of segregation is flexible. We review literature that highlights the importance of these principles for understanding the persistence of segregation through a lens of change and then describe research organized around three broad categories of mechanisms that contribute to structural sorting processes amid change: (*a*) resource inequality, (*b*) hierarchy endurance, and (*c*) consolidated power. These categories interact with each other and are not mutually exclusive, and they underscore the powerful role of deeply institutionalized racism and the persistence of racialized structural sorting processes that continue to restructure and reproduce segregation.

Interdependence and Spatial Scale

The interdependence of neighborhoods and broader local processes has long been a tenet of urban sociology. Demographic changes in some neighborhoods are related to the lack of change in other neighborhoods, and neighborhood changes have meaningful impacts on residential selection across neighborhoods beyond just the ones experiencing changes. Crowder & South (2008) and Crowder et al. (2011) show that Whites' decisions to move in response to growing minority or immigrant shares—the White flight thesis—are relational, conditioned by demographic changes in one's own neighborhood relative to demographic changes in surrounding neighborhoods. Demonstrating how immigrant replenishment offsets gentrification pressures onto predominantly Black neighborhoods in Seattle, Hwang (2020) argues that growing immigration also impacts points of entry into housing markets as gentrifiers and new immigrants compete for available housing in low-cost neighborhoods.

Neighborhood-level changes can also influence sorting dynamics more broadly across neighborhoods in metropolitan areas and even across metropolitan areas. Gentrification, for example, reduces affordable and accessible neighborhood options within cities—a process of indirect, or exclusionary, displacement (Davidson 2008, Newman & Wyly 2006, Zuk et al. 2018). Hwang & Ding (2020) show that low-SES residents in Philadelphia are less likely to enter gentrifying neighborhoods as they gentrify over time, and low-SES residents grow increasingly more likely to move to low-income, nongentrifying neighborhoods within the city.

Although we did not find studies of how the residential sorting of minority residents across metropolitan areas has shifted due to gentrification, a few studies explicitly consider how gentrification affects segregation more broadly. Freeman (2009) finds that the direction of the relationship between gentrification and changes in racial segregation before 2000 depends on how gentrification is measured. Hwang et al. (unpublished article) show how countervailing forces of gentrification are differentially associated with segregation by race and class. For example, gentrification reduces the segregation of poor Black residents from nonpoor residents across metropolitan areas by increasing the migration of poor Black residents to the suburbs. In contrast, it increases the segregation of poor Black residents in cities as poor White and poor Hispanic residents became more integrated with nonpoor White residents. These findings reflect a racial hierarchy in gentrification—either in where it takes place or the extent to which it displaces people.

Although segregation is traditionally measured using census tracts within places or metropolitan areas, scholars have argued that segregation can occur at different spatial scales (for a review, see Reardon et al. 2008). As racial minority and immigrant populations increasingly grow outside of cities, where resources such as schools are sharply divided along municipal boundaries, processes of White flight act to increase Black-White segregation between municipalities within suburbs and exurbs instead of between neighborhoods (Lichter et al. 2015). At the same time, other segregating processes occur at smaller spatial scales. Hwang's (2016) study of a historically Black area undergoing gentrification found that higher-SES White residents continually redefine neighborhood boundaries and identities to distance themselves from perceived concentrations of Black residents. These processes consequently structure residential sorting processes to produce uneven changes within census tracts or other administrative neighborhood boundaries.

Resource Inequality
Resource gaps between race groups or neighborhoods have become ever more consequential in the twenty-first century. The growing prevalence and spread of exogenous shocks (e.g., from natural disasters or public housing demolitions) and slow-moving disruptions to the urban landscape (e.g., through gentrification or economic downturns), along with the proliferation of information in the modern digital age, allow those with more resources to better withstand change and navigate dynamic housing markets.

The growing prevalence of natural disasters resulting from climate change—hurricanes, floods, and wildfires—and the widespread demolition of public housing projects in central cities have increased the frequency of constrained moves, thereby exacerbating racialized residential sorting patterns, whereas those with more resources have greater capacity to return and rebuild. Fussell et al. (2010) find that after Hurricane Katrina, Black residents of New Orleans returned at slower rates than White residents. Elliott & Pais's (2010) study of Hurricane Andrew shows that advantaged groups were more likely to exit rural places, while disadvantaged groups became stuck in them. In the context of public housing demolitions, Goetz (2011) finds that demolitions of large-scale public housing projects throughout the US were more likely to occur in Black neighborhoods, in cities with higher levels of segregation, and in places where gentrification pressures were greater. Although these demolitions were accompanied by the issuing of housing vouchers to public housing project residents, minority voucher recipients from demolished public housing developments were more likely to move to predominantly middle-class minority neighborhoods relative to other racial compositions (Popkin et al. 2009).

Places impacted by these shocks also have varying trajectories by race and class. Logan et al.'s (2016) study of population changes across the Gulf Coast in response to hurricanes demonstrates that communities experience segmented resilience by race in response to disasters because different communities have different resources and capacities to prepare for and respond to the effects of disasters. In some contexts, advantaged groups will desire to remain in place, while in others they will withdraw and selectively depart while more disadvantaged residents will remain trapped (Logan et al. 2016). Other studies shed light on what kinds of places experience these different trajectories. Raker (2020) finds that high-SES communities become whiter and more affluent after severe tornadoes. Elliott & Pais (2010) show that poverty became more concentrated in rural areas as poor people were more disproportionately displaced from urban areas following Hurricane Andrew. In another study, Pais & Elliott (2008) develop a recovery machine model to explain population changes after so-called billion dollar storms, arguing that climate disasters provide unique opportunities for urban development and growth coalitions to create new low-SES and immigrant communities that support construction labor, resulting in population growth and entrenched segregation.

The residential consequences of gentrification and economic downturns like the foreclosure crisis—slower-moving forces that can push people to live elsewhere—reveal the persistence of

racialized structural sorting amid widespread change. The forced displacement of households stemming from these processes reconfigures residential mobility patterns to the extent that movers are selectively sorted by race and class. However, the evidence on whether minority residents are more likely to move—in general or involuntarily—from gentrifying neighborhoods compared with those in lower-SES neighborhoods that do not gentrify is mixed and weak (for reviews, see Brown-Saracino 2017, Zuk et al. 2018). This lack of clarity is partially attributable to the high degree of residential instability experienced by socioeconomically disadvantaged minority residents, particularly in poor, inner-city neighborhoods that are not gentrifying (Desmond 2012).

Hwang & Ding (2020) broaden the analysis of displacement to study where movers end up rather than whether residents move. They demonstrate that low-SES residents from gentrifying neighborhoods with greater shares of White residents appear to benefit and move upward, while low-SES residents from historically majority-Black gentrifying neighborhoods are far more likely to move to low-income, central city neighborhoods that are not gentrifying. Their findings underscore the unequal consequences of gentrification and suggest that poor Black residents have fewer resources than other poor residents and are more likely to make constrained moves when they move from gentrifying neighborhoods.

The consequences of the foreclosure crisis further reflect how broader shifts in the economy can exacerbate resource gaps in ways that impact segregation and offer insights for understanding the long-term consequences of the COVID-19 pandemic.[10] Although the proliferation of subprime lending removed constraints on homeownership that disproportionately affected Black and Hispanic households across the income distribution (Faber 2013), the collapse of the housing market that set off the Great Recession disproportionately pushed these same residents from their neighborhoods and stripped them of wealth (Been et al. 2009, Rugh & Massey 2010). Hall et al. (2015) demonstrate that the subsequent foreclosure crisis further increased Black-White and Hispanic-White segregation, primarily driven by White population declines and Black and Hispanic population increases in neighborhoods that were hard-hit, especially in mixed-race neighborhoods. Altogether, these trends reflect differential capacities by race and neighborhood racial compositions to withstand external shocks.

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[10] Pattillo (2013) provides a review on sociological research on housing.

Resource inequality also structures the capacity for individuals and communities to take advantage of the growing proliferation of publicly accessible information on streamlined and centralized platforms, such as school test scores and ratings, business reviews, crime rates, and home rental and sale listings, among others. This information is not equally accessed or accessible to individuals, and producers of information carry biases that can perpetuate stigmas and other place-based reputations but may also have motives to change them.

Schachner & Sampson (2020) describe this process as skill-based contextual sorting, in which cognitive skills interact with SES to shape the intensity of socioeconomically and cognitively advantaged individuals' preferences for desirable neighborhoods while also enhancing their ability to overcome constraints to realize these preferences. Hasan & Kumar (2018) demonstrate how this plays out by showing that the increased availability of information on standardized test scores across schools results in greater inequality in housing values, SES, and ethnoracial composition between zip codes. At the same time, information channeled to disadvantaged residents can funnel residents into neighborhoods in ways that reinforce segregation. DeLuca et al. (2019) show that local housing authorities often have go-to lists for voucher holders that disproportionately feature high-poverty neighborhoods.

Hierarchy Endurance

Although changing demographics and migration patterns in the US population bring new complexities to traditional racial hierarchies that historically have guided theory and research on residential segregation, neighborhood hierarchies nevertheless continue to reappear in a multitude of ways. The socioeconomic diversity and ethnoracial profile of immigrants and the compositions of neighborhoods have become much more complex as settlement patterns of new immigrants have shifted from urban cores in a handful of gateway cities, where enclaves thrived, to a broader range of affordable neighborhoods throughout central cities, to more cities, and to the formerly White suburbs (Hall et al. 2011, Logan et al. 2002, Pew Research Center 2013, Singer 2004).[11]

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[11] Others have reviewed segregation of specific ethnoracial groups and immigrant populations and in multiethnic contexts (Flippen & Kim 2015, Fong & Shibuya 2005, Iceland et al. 2014, Tienda & Fuentes 2014, Waters et al. 2014).

Crowder et al. (2011) show how nativity is an important addition to the ethnoracial hierarchy of neighborhood preferences guiding patterns of White flight. Zhang & Logan (2016) and Logan & Zhang (2010) document the rise of White neighborhoods across the US that became racially integrated with the initial arrival of Asians or Hispanics and the subsequent arrival of Black residents—a progression consistent with a process of buffering (Frey & Farley 1996). The buffering hypothesis proposes that the arrival of Asians and Hispanics in neighborhoods relieves tensions and fosters acceptance among groups, thereby making it possible for Black residents to move in and for Whites to remain (Frey & Farley 1996). Despite evidence of growing numbers of integrated neighborhoods, trends toward diversity are partially offset by substantial White population declines in diverse places (Ellis et al. 2018, Hall et al. 2016, Parisi et al. 2015), as well as by segregated interactions within stably diverse neighborhoods (Tach 2014) and the delineation of new boundaries (Hwang 2016).

Gentrification's growing presence in communities of color (Owens & Candipan 2019) highlights how long-standing racial hierarchies of neighborhood preferences are not uniform yet continue to reflect a nuanced but persistent hierarchy. Gentrification is less likely to occur in predominantly minority neighborhoods than in other neighborhoods or occurs at a slower pace (Brown-Saracino 2017). From 2000 to 2010, only an estimated 10% of majority-Black neighborhoods experienced an increase in the share of White residents by at least 5% (Freeman & Cai 2015; see also Ellen & Torrats-Espinosa 2019, Timberlake & Johns-Wolfe 2017).

Hwang & Sampson's (2014) analysis in Chicago likewise showed a slower and more stagnant pace of gentrification into the 2000s within neighborhoods that were more than 40% Black in 1995. They argue that that race-based residential selection also governs gentrification such that gentrifiers have limited preferences for diversity, preferring modest levels of diversity that exhibit a racial order (Hwang & Sampson 2014). Pattillo's (2007) ethnographic study of gentrification in a historically Black Chicago neighborhood, where the gentrifiers were Black, documents the struggle and tension to attract more investment, further reflecting the limits of change.

While incoming residents to gentrifying predominantly White neighborhoods are generally more likely to be White (Ellen & O'Regan 2011, Freeman 2005), gentrifiers in minority neighborhoods are often minorities themselves or have relatively low incomes, at least in the early years of gentrification (Bostic & Martin 2003, McKinnish et al. 2010, Rucks-Ahidiana

2020, Timberlake & Johns-Wolfe 2017). Recent studies suggest that these trends are changing as gentrification continues to expand—with middle-class minority residents increasingly being replaced by middle- and high-SES White residents (Hyra 2017, Sutton 2018), though this may be more likely in cities with low segregation levels (Freeman & Cai 2015, Hwang 2020). Nonetheless, when racial hierarchies are upended, the lack of resources among preexisting residents to withstand these changes likely exacerbates racial inequalities in residential sorting processes.

Research on mixed-income subsidized developments in neighborhoods where public housing was demolished (e.g., the federal HOPE VI program, which targeted severely distressed project-based housing for redevelopment) further demonstrates the persistence of neighborhood hierarchies. Tach & Emory's (2017) study of the trajectories of neighborhoods with HOPE VI redevelopments finds reductions in poverty and increases in White population shares in these neighborhoods, but these changes are largely driven by displacement, rather than the in-movement of White or nonpoor people, especially in previously minority neighborhoods. These results suggest that racialized reputations and perceptions may be strong and long-lasting, and research continues to find strong evidence of neighborhood stigmas, particularly in majority-Black neighborhoods (Besbris et al. 2015). For those living in HOPE VI developments, integration remains elusive: residents' social interactions and organizations remain separated by racial and class status (Chaskin & Joseph 2015, Graves 2010, Tach 2009). While the shifts in public housing policy would have theoretically led to widespread declines in segregation, modest declines in the concentration of poverty suggest that racial segregation was not substantially altered (Owens 2015).

Since the mid-1990s, the expansion of school choice, the demolition of public housing projects, and drastic crime declines in cities have made schools, public housing, and crime less tied to minority neighborhoods.[12] However, other place-based institutions and reputational indicators have become more important. While Ellen et al. (2019) find that declines in crime are associated with the increased probability of higher-income and White residents moving into

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[12] In recent years, crime has increased in some cities and in certain kinds of neighborhoods (Krivo et al. 2018), and perceptions of crime are not necessarily aligned with actual crime levels (Sampson 2012).

lower-income central city neighborhoods, climate-related risk and policing have become increasingly important dimensions in the perceptions and valuation of places. Keenan et al. (2018) show how property values decline in areas with more climate risk and fuel gentrification in areas with less climate risk, underscoring the importance of resources to take advantage of new dimensions of desirability.

Drawing on interviews with Cleveland families about policing in their neighborhoods, Bell (2020) demonstrates the importance of perceptions of policing as a located institution through which residents perceive and select neighborhoods. Importantly, Bell (2020) demonstrates the situational and flexible nature of neighborhood frames around policing. While much of the research on neighborhood perceptions and residential segregation focuses on the stickiness of neighborhood reputations, this perspective incorporates the possibilities of both change and stability.

Consolidated Power

Urban transformations of the twenty-first century are increasingly consolidating power in the hands of institutions and large-scale private actors, diminishing individuals' power in residential sorting and in shaping neighborhood trajectories. Shifts in public housing policy to expand housing choice vouchers and incentivize affordable housing developments using tax credits increased the reliance of subsidized housing on the private market. Moreover, the Great Recession and accompanying foreclosure crisis shifted the ownership structure of residential properties, consolidating capital into the hands of corporations in the minority neighborhoods disproportionately affected by foreclosures. Lastly, the growth of nonprofit organizations has altered the power structure in urban governance. Research on these changes demonstrates how these shifts disproportionately disadvantage minority residents in residential sorting processes and mediate neighborhood trajectories.

While shifts in public housing policy have improved some outcomes for some individuals, they have also reinforced racially stratified sorting patterns by increasing the role of landlords and large property management corporations in mediating residential sorting processes. Rosen (2020) documents the ways in which landlords manipulate where voucher holders move in Baltimore to maximize their profits by selectively targeting voucher holders, placing more disadvantaged ones in segregated neighborhoods, and trying to keep them there. Others show how private affordable housing developments supported by the Low-Income Housing Tax Credit

(LIHTC) program are much more likely to be in neighborhoods with large shares of minority residents and that most beneficiaries are minorities, making virtually no dent in residential segregation unless they are sited in affluent neighborhoods—a rare occurrence (Horn & O'Regan 2011, McClure 2008, Oakley 2008). The effects of the expiration of affordability mandates in the LIHTC program are yet to be seen. Although the information age may enable people to navigate the increasingly privatized market, resource inequalities that structure the ability to take advantage of this information will likely exacerbate inequalities in residential sorting processes (Schachner & Sampson 2020).

Research on the rise of corporate ownership in neighborhoods demonstrates how the foregoing shifts exacerbate neighborhood inequality. Using survey and administrative data in Milwaukee, Travis (2019) documents the rise of limited liability companies (LLCs)—an ownership structure that protects real estate investors from responsibilities, lowering the likelihood that they would maintain their properties after the Great Recession, especially in neighborhoods with higher concentrations of poor and Black residents. Hwang (2019) demonstrates similar patterns among neighborhoods hard-hit by the foreclosure crisis, finding that foreclosed properties in Boston were more likely to be purchased by corporations in predominantly Black neighborhoods compared with hard-hit mixed-race neighborhoods. Molina (2016a,b) finds similar differentiation between the urban core and inner-ring suburbs relative to the exurbs in neighborhoods with greater Black and Hispanic concentrations experiencing more disinvestment in the Los Angeles region. These trends may have contributed to the reversal of sorting patterns in minority and mixed-race neighborhoods after the foreclosure crisis, resulting in more segregation (Hall et al. 2015).

Lastly, an emerging body of literature documents the nuanced role that nonprofit organizations play in community monitoring and governance and their implications for residents of these neighborhoods. Sharkey et al. (2017) find that nonprofits are causally linked to declines in gun violence, suggesting that these organizations can durably transform communities, especially in disadvantaged minority neighborhoods. At the same time, nonprofits can become important community representatives, sometimes partnering with (Chin 2009, Marwell et al. 2020) and sometimes superseding (Levine 2016) elected officials in securing resources from government organizations and private foundations, particularly in times of crisis (Reckhow et al. 2020). These changes may help neighborhoods secure certain resources, but they have the

potential to undermine residents' voices given that nonprofits have organizational interests and are not directly beholden to residents in the same ways that elected officials are (Levine 2016, Reckhow et al. 2020).

NEW TOOLS FOR STUDYING THE TWENTY-FIRST CENTURY CITY

The mechanisms described above require researchers to reconsider traditional measurements, methods, and data sources. The growth of widely available information—both new and old kinds—about neighborhoods and institutions on new scales and advances in computational methods provide new opportunities for researchers to study the dynamic relationship between urban change and stability. In the following sections, we recommend measurement strategies for describing segregation today and discuss how novel data sources and methods can extend research on segregation to capture elements of neighborhood change and spatial separation in the modern metropolis.

Advancing Segregation Measures
The changing spatial and demographic structures of cities are sometimes obfuscated by traditional measures of segregation. Indices of dissimilarity, isolation, and exposure have historically been the prominent metrics for residential segregation studies, but they are limited from considering more than two groups simultaneously, are aspatial, and only allow analysis at a single scale (Reardon et al. 2008). Recent scholarship contributes a vast number of alternative measures. In this section, we discuss measurement strategies that pertain to the dynamics described above: measures that consider the intersection of race and class, multicomponent measures, multigroup measures, and multiscalar measures.

First, the changing landscape of spatial inequality and the growing importance of resources require greater consideration of the intersection of race and class (Massey et al. 2009). Researchers have measured income segregation by racial groups using the rank order H index to investigate within-race income segregation and differential exposures to poverty between race groups (Reardon & Bischoff 2011), and others have applied the typical measures of segregation to race-class groupings (Adelman 2004). However, decomposable measures, such as the divergence index (Roberto 2016), which measures evenness, allow researchers to both examine

race-class groupings and identify the contributions of each dimension to segregation (Hwang et al., unpublished article, Quillian 2012).

Second, given growing racial diversity and ethnic diversity within race groups, researchers are also increasingly using measures such as the Theil information index (H), which has many desirable properties for measuring diversity among multiple groups, including decomposability (Reardon & Firebaugh 2002). The divergence index (Roberto 2016) and the M index (Mora & Ruiz-Castillo 2011), a nonnormalized version of the H index, have similar properties. Multicomponent measures—those that incorporate multiple dimensions—can also be useful in the multigroup context and to improve measuring demographic changes. For example, Kye & Halpern-Manners (2019) use a measure that includes absolute and relative population levels to examine White flight or buffering, and Elbers' (2021a) decomposition of the M index allows for analyses of changes in segregation across time or space for multiple groups. Few studies, however, measure segregation between detailed ethnicities (rather than panethnic groups) due to small population sizes (except see White et al. 2005).

Finally, researchers have adopted measures that allow for more flexibility in analyzing the scale of segregation. Traditional measures consider identical spatial units (e.g., census tracts) within a larger area (e.g., metropolitan area). One approach has been to use decomposable indices to estimate the extent to which segregation is taking place within spatial units (e.g., municipalities) or between units (Lichter et al. 2015). The spatial information theory index (Reardon & Firebaugh 2002) and multiscalar approaches (Jones et al. 2015, Olteanu et al. 2019) allow researchers to look at spatial differences at different levels.

New Data and Methodological Advances

Novel data sources and advances in computational methods offer new possibilities for studying urban change and the mechanisms that contribute to segregation. Segregation researchers in the United States traditionally rely on US Census and American Community Survey (ACS) data and longitudinal panel surveys, like the Panel Study of Income Dynamics. While these data provide invaluable information about residential patterns, they limit the questions that researchers can pursue. New forms of data, often at unprecedented geographic and/or temporal scales—such as large-scale administrative records, mobile phone records, street and satellite images, and social media traces—offer new opportunities to study daily travel and residential selection patterns, social networks and interactions, place-based perceptions and discourses, and visible features of

neighborhood contexts. Computational advances allow researchers to analyze large data sets and new forms of data and more realistically simulate residential choice behavior.

The growing availability of geolocated digital trace data allows for investigation into timely questions around access to resources and institutions, race-based spatial hierarchies, and neighborhood interconnectedness. Athey et al. (2020) use mobile pings from over 17 million cell phone users, combined with racial imputations from census data, to estimate experienced isolation across US metro areas. Combinations of activity surveys and mobile phone geolocations or Global Positioning System units (Browning et al. 2021, Wong & Shaw 2011) are also promising sources of insight around activity spaces—the locations where people conduct routines and spend time (for a review, see Cagney et al. 2020). Activity space data combined with race and ethnicity information is valuable for describing new forms of urban segregation (Silm et al. 2018). Geotagged social media data from Twitter and Instagram, for example, can also reveal information about neighborhood connections using network approaches (Boy & Uitermark 2016, Shelton et al. 2015, Wang et al. 2018). Partnerships between commercial entities, governmental groups, and academics offer new opportunities for researchers to study mobility processes at an unprecedented scale (Chetty & Hendren 2018, Hwang & Ding 2020). Finally, increases in computational power allow researchers to examine the macrolevel effects of individual moving patterns (Bruch & Mare 2006, Bruch & Swait 2019) and account for individual-level heterogeneity in racial preferences (Xie & Zhou 2012).[13]

Other novel data sources yield information on new or previously unmeasured dimensions of neighborhoods at large scales and over time, which opens possibilities to better understand heterogeneity across contexts and address causal questions, for example. The push for open data in urban governance over the past decade has led to new kinds of geolocated administrative data sources (e.g., 311 service calls, public investment initiatives) available to researchers to better understand social processes, like collective efficacy (O'Brien et al. 2015), and neighborhood trajectories. Data from third-party platforms that democratize information, such as Zillow, Craigslist, Yelp, and Airbnb, can inform studies on housing search matching processes (Boeing et al. 2021), presentations of place (Boeing 2020), and perceptions of places (Zukin et al. 2017)

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[13] Simulation methods have also allowed researchers to estimate and correct for bias in segregation estimates from ACS data (Napierala & Denton 2017, Reardon et al. 2018).

that shape inequalities and neighborhood trajectories. Geotagged data from social media platforms like Twitter and Instagram can also reveal discourses associated with places. Finally, the proliferation of large-scale visual data, such as satellite and street-level imagery, offers new opportunities for studying neighborhood change and urban spaces. Street-level imagery has been used to measure neighborhood characteristics related to gentrification, SES, infrastructural improvement, and homelessness encampments (Finnigan 2021, Hwang & Sampson 2014, Naik et al. 2017), and others have used satellite imagery to identify infrastructure and poverty, particularly where data are scarce, such as in rural environments (Jean et al. 2016). Combining these data with computational methods like web scraping, natural language processing, and computer vision allows researchers to examine many of these new data sources at unprecedented scales. While the advantages of big data and machine learning are not without drawbacks, including biases and selection in data and algorithms, among others (see Salganik 2017), these data and approaches offer novel ways to study urban change and segregation, and careful consideration of their limitations can advance their use in the field.

BRINGING CHANGE INTO THE STUDY OF SEGREGATION

Over fifty years since legislation passed banning racial discrimination in lending and housing, racial residential segregation persists and continues to be a key driver of racial inequality. The twenty-first century ushered in a new era of massive changes, overturning standard sociological models of White flight and disinvestment in cities, yet simultaneously reinscribing segregation. We argue that the contemporary literature on segregation must incorporate theory and evidence on change to advance our understanding of how segregation persists. The literature reviewed in this article brings together research on different processes that have transformed the urban landscape in the twenty-first century to offer insights into explanations for segregation's persistence. Our review suggests that advancing our understanding of segregation requires an expanded research agenda that focuses on the racialized reshuffling that these changes bring: Why do some places change while others do not, and what are the emergent consequences of such changes?

This approach begins with the guiding principles that neighborhood trajectories are interdependent and that the spatial scale of segregation is flexible. Our review highlights the dynamic interaction between change and stability. Residential mobility/immobility and

neighborhood change/stability depend on how surrounding neighborhoods are changing and the options in other neighborhoods in the city or metropolitan area. The residential mobility/immobility resulting from these changes can reproduce segregation, while restructuring it into new forms, dimensions, or scales.

With growing income inequality within race groups and rising income segregation among Black and Hispanic groups (**Table 2**), increased attention to the segregation of race-class groups is needed. A sole focus on segregation by race or by class obscures the increasing segregation between poor or middle-class minorities from the affluent of any race group. Researchers should further consider the type and location of change and expected spatial processes in considering the scale at which they want to measure segregation. Whereas residential divisions in the suburbs and exurbs may occur along municipal boundaries, resources and opportunities are often divided within central cities and place-based perceptions work at a finer-spatial scale. Decomposable and multiscalar measures of segregation can advance these efforts.

We outlined three broad categories of mechanisms—resource inequality, hierarchy endurance, and consolidated power—that underscore how structural sorting processes contribute to segregation's persistence in a context of widespread change. These mechanisms intersect throughout the multiple stages of the housing search process described by the social structural sorting perspective as they shape individuals' neighborhood choice set and the ability of individuals to access housing within this choice set. They further structure residents' ability to move or stay and shape the trajectories of the neighborhoods in which they live.

Literature examining the residential consequences from increasingly prevalent shocks like sudden disasters and slow-moving changes like gentrification and consequences of economic downturns like the foreclosure crisis that spur migration underscores how these changes exacerbate the consequences of resource inequality. These stratified responses to shocks structure uneven residential sorting patterns and reinforce neighborhood inequalities. Research examining the effects of the proliferation of publicly accessible information shows how resource inequality structures the use of this information to worsen uneven residential sorting. More research is needed on heterogeneity across race and class groups in response to shocks and forced moves and the use and influence of information platforms, with greater attention to the broader context of neighborhood and housing options and spatial scale.

The literature reviewed in the second category of mechanisms—hierarchy endurance—demonstrates how hierarchies reappear despite widespread demographic changes and weakening ties between neighborhoods and institutions like schools and large-scale public housing. Hierarchies may reflect those of the past but also form along new dimensions like nativity, be structured by new dimensions like policing and climate risk that form place-based stigmas, or appear in weaker forms like the limited diversity preferences of gentrifiers. Recognizing that people draw symbolic boundaries around various dimensions and that perceptions are malleable and situational yet powerful, future research is needed to improve our understanding of the formation and strength of place-based perceptions in dynamic contexts, including the dimensions by which they form, the spatial scale to which they apply, and how they relate to perceptions of proximate places.

The third category—consolidated power—draws attention to the diminishing power and increased constraints of individuals in residential sorting and neighborhood trajectories as institutional actors and private entities are increasingly more prevalent. The neoliberal shift in housing and community development policy and broader growth policies have impacts on residential sorting and neighborhood trajectories in ways that can generate more inequality between neighborhoods and perpetuate segregation, especially when resource inequality exacerbates differences in residents' abilities to navigate this changing housing market. Recent work focusing on landlords, property ownership structures, and nonprofit organizations are a step forward. Research on their differential impacts across race and class groups and how and why these shifts promote change in some places but not in others is needed.

Nonetheless, the literature altogether underscores how deeply inscribed racialized processes in the US housing market work to perpetuate segregation despite widespread changes. Future work in this field should continue to expand on these categories by assessing the extent to which theories on the persistence of segregation apply to urban changes and subsequently refining them. Part of this work entails utilizing segregation measures that are decomposable and allow for multiple groups and scales; another part requires the use of new sources of data to improve measures of urban change (e.g., street-view imagery), capture the residential patterns of more people (e.g., cell phone data), and understand place-based perceptions (e.g., Yelp reviews) and presentations (e.g., Craigslist) and the use of new tools to handle these data (e.g., computer vision).

To conclude, the study of segregation and its persistence is incomplete without a broader theoretical framework that incorporates change. We end with a reminder of why the study of segregation and its persistence remains an important endeavor for sociology. As sociologist Mary Pattillo (2019, p. 32) writes, "the material and spiritual solutions cannot be realized through the colocation of Black and White bodies alone, but must include the real stuff of equality…until and in pursuit of the day that such stigma is no longer." Until that day, sociologists must continue to advance our understanding of segregation's persistence as part of our challenge to dismantle racial inequality.

DISCLOSURE STATEMENT

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