social sciences

MDPI

Article

Livability vs. Affordability; Disability and Housing in the United States

Raeda K. Anderson [1,2,*], Daniel S. Pasciuti [2,*] and Chloe M. Sellers [1]

[1] Virginia C. Crawford Research Institute, Shepherd Center, Atlanta, GA 30302, USA; chloe.sellers@shepherd.org
[2] Department of Sociology, Georgia State University, Atlanta, GA 30302, USA
* Correspondence: raeda.anderson@shepherd.org (R.K.A.); dpasciuti@gsu.edu (D.S.P.)

Abstract: This paper demonstrates the macro dynamics of housing and disability by comparing pressures on a broad range of issues related to housing and disability across states. Despite the growing population of adults with disabilities in the United States, research on the national-level relationship between housing and disability has been largely absent and little attention has been paid to accessibility, housing affordability, or the prevalence of involuntary movement and relocation for adults with disabilities. Using national data from the 2020 American Community Survey (ACS), we examine the multi-dimensional nature of housing, through cost burdens, upkeep, and maintenance, renting vs. ownership, and types of housing prevalent in the United States, and argue that this creates a paradox of livability vs. affordability for adults with disabilities. These state-level trends in the cost and livability of housing environments by state show that housing conditions and housing costs are inversely associated for adults with disabilities. These macro-level conditionalities are not uniform but vary by housing type and location across the country, creating specific paradoxes in each state. We assert that housing itself is one of the key mechanisms that can support or hinder the long-term well-being of persons with disabilities living in the community, through the presence or absence of both physical space and facilities in the home. Ultimately, housing conditions and affordability need to be considered primary factors in the study and support of persons with disabilities and these considerations must be tailored to state and local housing dynamics to meet persons with disabilities where they live.

Keywords: disability; social determinants of health; housing issues; housing type; housing

check for updates

Citation: Anderson, Raeda K., Daniel S. Pasciuti, and Chloe M. Sellers. 2024. Livability vs. Affordability; Disability and Housing in the United States. *Social Sciences* 13: 291. https://doi.org/10.3390/socsci13060291

Academic Editors: Amy Spring and Nigel Parton

Received: 12 December 2023
Revised: 27 April 2024
Accepted: 24 May 2024
Published: 29 May 2024

Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

Disability and housing issues are uniquely interconnected as most persons with disabilities seek to have their needs met living in the community (persons who are residing in their home community and who are not living in institutions such as jails, prisons, nursing homes, hospitals, etc.). Of the 328,293,917 adults in the United States living in the community in 2020, 44,061,818 (13.4%) had (Paul et al. 2021, Table 7.1), generally defined as a person with a physical or mental impairment and/or accessibility need that substantially alters or limits major life activities. When combined with national trends of increasing rental prices (Immergluck et al. 2016), decreasing and stagnant wages, and limited public assistance (Xing 2018; Thomas 2017; Edin and Lein 1997), the existing crisis of housing and disability becomes clear.

Despite the growing population of adults with disabilities in the United States, research on the national-level relationship between housing and disability has been largely absent and little attention has been paid to accessibility, housing affordability, or the prevalence of involuntary movement and relocation for adults with disabilities. Health recommendations and home care plans are often created under the assumption of ideal living conditions when persons with disabilities are returned home from rehabilitation or medical centers. This

creates an unrealistic burden where the livability and accessibility of housing arrangements can often be at odds with the cost burdens of housing.

This paper seeks to fill this gap by examining the macro, state-level dynamics of housing and disability by recognizing the unique challenges faced by individuals with disabilities in securing livable and affordable homes for community living. We argue that housing is a pivotal determinant of long-term well-being of individuals living in the community, through the presence or absence of both physical space and facilities in the home. We argue that the multi-dimensional nature of housing, through cost burdens, upkeep, and maintenance, renting vs. ownership, and types of housing prevalent in the United States, creates a paradox of livability vs. affordability for adults with disabilities. This paradox requires rethinking critical assumptions about the importance of physical housing quality and the cost of that livability, including the costs to and capacity of persons with disabilities during relocation, either voluntarily seeking better accommodation or involuntarily due to eviction or seeking relief from high housing-cost burdens. This perspective questions the assumptions underlying health recommendations and home care plans, particularly in the context of returning individuals with disabilities to their homes from rehabilitation or medical centers.

We build from the concept that becoming disabled is not an automatic response to aging or to the onset or progression of health problems. Instead, it reflects a dynamic process that interacts with physical, mental, social, and environmental levels (Engel 1981), emphasizing the need to consider societal attitudes and structures in the intersection between disability and housing, where housing itself is a social institution (Foley 1980). Finally, aligning with the UNCRPD's Article 19, this analysis advocates for the right of persons with disabilities to community living, emphasizing the freedom to choose their living arrangements and receive the necessary support for social inclusion (Márton et al. 2013).

1.1. Background

Our analysis seeks to raise two distinctly important questions; one theoretical and one substantive. Theoretically, we wish to bring the question of disability and disability access clearly into discussion on the housing question and ongoing housing crisis in the United States. Persons with disabilities comprise an understudied and underserved population. They are especially underserved in housing and are highly susceptible to housing insecurity and community displacement. Through clearly articulating housing as a social determinant of health that must address both affordability and livability for persons with disabilities, especially during the ongoing housing crisis, we can most fully address the needs and conditions in our understanding of community.

Substantively, we seek to engage health providers on the need to take an individual's housing seriously in the development and implementation of home healthcare or rehabilitation plans to offer pragmatic and engaged solutions or options to persons with disabilities. Furthermore, we seek to elucidate to housing scholars and policy makers the importance of including persons with disabilities as a key population segment. As a large and growing segment of the population, with clear geographic and spatial contingencies, urban policy and planning must comprehensively consider their impact in communities. To address both of these questions, our analysis engages a state-level, macro analysis of disability and housing throughout the United States.

1.2. Housing Precarity and Community Context

Urban sociology has long recognized that race, gender, and other social dynamics intersect with housing decisions. Through examining housing as a social institution, sociology has considered how housing reflects and influences social structures, relationships, and inequalities (see Foley 1980; Wilson 2006; Pattillo 2013). This interplay creates new and evolving disparities in housing options that substantively alter the broader social and economic opportunities available to individuals, while emphasizing the long-standing

regional variations in housing in the USA. Over the past several decades, urban questions have shifted from whether neighborhoods matter to the context of outcomes (Cornelissen and Jang-Trettien 2023; Small et al. 2018; Sharkey and Faber 2014; Small and Feldman 2011). From this perspective, homes are not just physical structures but integral components that shape the social fabric of lives.

Overall, the proportion of income spent on rent has dramatically increased. Between 1991 and 2013, the percentage of renter households in America allocating under 30 percent of their income to housing costs declined, while the percentage of renter households paying at least half of their income to housing increased (Larrimore and Schuetz 2017). By 2015, almost half of U.S. tenants paid more than 30% of their household income for rent (Gabriel and Painter 2020). When combined with national trends of increasing rental prices (Immergluck et al. 2016), decreasing and stagnant wages, and limited public assistance (Xing 2018; Thomas 2017; Edin and Lein 1997), the existing crisis affecting housing becomes clear.

This 'rental burden', the financial strain experienced by individuals or families who spend a significant portion of their income on housing, often leaves people with limited resources for other necessities. Specifically, individuals or families experiencing high rental costs may face difficulties in meeting other essential needs, such as healthcare, education, and food. Thus, rental burden and tenure issues intersect with broader socio-economic factors. Discrimination, unequal access to housing opportunities, and systemic issues within housing markets contribute to disparities in rental burden experiences (Desmond 2018; Colburn and Allen 2018; Sharma and Samarin 2022; Airgood-Obrycki et al. 2022). Individuals facing involuntary displacement face a spiral of costs and accessibility to housing which often leads to decreasing and substandard housing conditions.

Additional studies have addressed the fallout from eviction and housing precarity intersecting housing, hardship, and health to produce clear implications for the long-term health and well-being of individuals and families (Desmond and Kimbro 2015). During the COVID-19 pandemic, research illustrated the disconnect between housing and health issues as decisions by courts did not correlate with any measures of disease transmission or socioeconomic conditions and often failed to direct tenants to the Center for Disease Controls (CDC) declaration form (Pasciuti et al. 2021). Ultimately, this implies that the association between health and well-being and the role of housing remains under-appreciated in scholarship and practice at both the academic and policy levels.

Furthermore, housing and community contexts are not static but highly variable across the USA. While some cities have seen significant growth and economic redevelopment in the past several decades (Clark 2004; Florida 2005; Glaeser et al. 2001; Grogan and Proscio 2001; Lees 2008), this has led to issues of gentrification, displacement, and affordability, where lower income and minority communities have been pushed out of the urban core in what has been termed the "suburbanization of poverty" (Kneebone and Garr 2010; Howell and Timberlake 2014). In contrast, other communities have been left out of the 'eds and meds' race (Pasciuti and Jilbert 2015), instead experiencing continuing disinvestment and decline, especially in lower-income neighborhoods and distant communities (McCabe and Rosen 2023) where hospital closures and limited access to health and other social services have become profound (Kaufman et al. 2016; McCarthy et al. 2021).

In these disparate contexts, the type of housing and quality of housing available in a particular area can shape community dynamics, just as local institutions and policy can directly shape the extent of housing precarity and vulnerability of populations. Neighborhoods with affordable housing might foster a diverse community, while exclusive housing developments may contribute to socio-economic segregation. The availability of communal spaces, parks, and public amenities also plays a crucial role in fostering a sense of community and social interaction. Furthermore, the variation of social institutions, such as courts and local law enforcement, can have profound effects on the structure of displacement and housing precarity (Sudeall and Pasciuti 2021). This implies that our understanding of housing typology and community must adopt a heterogeneous perspective of divergence across time and space (Boustan and Shertzer 2013; Duranton and Puga 2014; Hall and Lee

2010; Meyers and Lee 2003) and therefore, the trajectory of housing precarity and proximity to access to healthcare affects individuals in unique ways.

1.3. Social Determinants of Health and Disability

Social determinants of health are defined by the World Health Organization as 'non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.' (World Health Organization 2023; Lawrence and Anderson 2023). Some of those systems are social norms, economic policies, and political systems. Social determinants of health account for between 30–55% of health outcomes, (World Health Organization 2023; Lawrence and Anderson 2023, 2024). These factors are often distributed unequally through discriminatory systems and can therefore have a drastic impact on a person's quality of life (Lawrence and Anderson 2023, 2024).

Due to this unequal distribution, social determinants of health are even more impactful on quality of life for those with disabilities. Social determinants of health deficits are associated with a significant increase in disability, based on the current literature (Wolbring 2011; Friedman 2021; Frier et al. 2018). However, those with disabilities are still less visible than other social groups despite the major impact social determinants of health have on this population (Altman and Bernstein 2008; Iezzoni 2011; Krahn et al. 2015). It is also important to note that not all disability is the same, and "scholars caution against generalizing from such research to a population with a substantially different health profile" (Burns 2009). While avoiding generalization, understanding the intersectionality is key.

While housing is understood as a social determinant of health in relation to the general population, the role of disability has generally been left unexplored. There are very few studies that focus on housing as a social determinant of health for those with disabilities. The intersectionality of disability has been left behind. When researched, housing has often been marginal and not the primary focus of the study (Friedman 2021; Frier et al. 2018). Friedman conducted a study on disparities in social determinants of health amongst people with disabilities. They found that multiple characteristics were correlated with lower social determinants of health, one of which was residence type (Friedman 2021). Frier also found that there was a compounding effect for those with disabilities when it came to lack of employment and the increased cost burden of housing (Frier et al. 2018). These studies move us in the right direction, illustrating the multifaceted impact that housing has on an individual's social determinants of health. However, neither were conducted in the United States, nor was the primary focus of the study on housing as a social determinant of health in relation to those with disabilities.

The intersection of housing and disability is a complex and critical area of study, particularly as individuals with disabilities seek to meet their needs while living in the community. Specifically, housing aspects that potentially offer unique challenges to those with disabilities include indicators such as housing hazards, amenities, retrofitting, and assistive devices, as well as neighborhood conditions and urban–rural differences. The need to meet additional health and housing needs, including accessibility and safety, combined with often greater employment instability, makes persons with disabilities more susceptible to housing crises and directly impacts health outcomes (Semeah et al. 2019; Harrison 2004).

This article seeks to fill that gap in the research by analyzing not only the affordability of housing but also the livability of housing as a social determinant of health for those with disabilities, recognizing that housing challenges for individuals with disabilities are not uniform but contingent on housing types and locations. Therefore, housing conditions and affordability must be considered primary factors in the study and support of persons with disabilities. Acknowledging the broader societal constraints and individual choices inherent in disability and housing dynamics is crucial for developing policies and practices that foster inclusive, accessible, and supportive living environments. By examining national trends and juxtaposing socio-medical expectations against lived realities, this analysis aims

to elucidate the macro dynamics that shape the paradoxical intersection between housing and adults with disabilities.

2. Materials and Methods

2.1. Data and Methods

Data for this study are from the 2020 American Community Survey with state-level aggregated measures from the *Annual Disability Statistics Compendium*. Data from the *Annual Disability Statistics Compendium* include calculations utilizing the U.S. Census Bureau American Community Survey, Public Use Microdata Sample with Experimental Weights, 2020. The data have sampling variations. Data were analyzed via SPSS using descriptive statistics, t-tests, correlations, and multiple regression testing. First, we conducted a comparison of state-level housing issues between persons with and without disability, using paired sample t-tests, to empirically demonstrate that persons with disabilities have distinct differences in both livability and affordability. From there, we move to identify the macro dynamics of housing and disability in relation to state-level housing issues for persons with disabilities, using correlations and regression analysis.

2.2. Measures

2.2.1. Housing Issues

Housing issues were measured at a state level, assessing the percentage of community-living adults by disability status across six housing metrics: lacks a complete kitchen, lacks complete plumbing, overcrowded home environment, housing-cost burden, poor housing, and old housing.

'Lacks a complete kitchen' refers to housing units that do not have one or more of the following in their home kitchen: a stove or range, a refrigerator, or a sink with a faucet (Paul et al. 2021, Table 7.1). 'Lacks complete plumbing' describes the percentage of state residents who do not have hot and cold running water and/or a bathtub or shower (Paul et al. 2021, Table 7.2). Overcrowded homes are when a housing unit has a ratio of over 2 to 1 of people living in the home to the number of bedrooms (Paul et al. 2021, Table 7.3). 'Housing-cost burden' refers to all housing units where the residents spend more than 30% of their household incoming on housing (Paul et al. 2021, Table 7.4). 'Poor housing' is all households that have two or more of the aforementioned housing issues, i.e., lacks a complete kitchen, lacks complete plumbing, overcrowded homes, or housing-cost burden (Paul et al. 2021, Table 7.5). Old housing is categorized as housing built in 1990 or earlier, being 30 years old at the time of data collection (Paul et al. 2021, Table 7.6).

2.2.2. Housing Type

Type of housing is measured by the state-level percentage of US community-living adults who live in houses (Paul et al. 2021, Table 7.7), apartments (Paul et al. 2021, Table 7.8), or mobile homes (Paul et al. 2021, Table 7.9).

2.2.3. Community-Living Adults by Disability Status

Community-living adults are defined as people 18 and older in the United States who at the time of data collection did not live in institutions such as correctional facilities, nursing homes, or group homes. Disabled adults include people aged 18 and older who have one or more of the six disabilities defined in the USA by American Community Survey groups: hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty, self-care difficulty, and independent living difficulty (Erickson 2012). Non-disabled adults include people 18 and older who do not have any of the aforementioned disabilities outlined above.

3. Results

3.1. Disability Status and Housing Issues

Table 1 contains descriptive statistics for each housing issue and type of housing for adults with disabilities and adults without disabilities at the state level. Housing issues

include the state-level percentage of adults with disabilities, where 1.09% (SD = 0.534) have an incomplete kitchen, 0.78% (SD = 0.804) have incomplete plumbing, 3.72% (SD = 1.873) live in overcrowded homes, 32.77% (SD = 4.912) have a high housing-cost burden, 13.96% (SD = 3.011) live in poor housing, and 30.18% (SD = 9.216) live in old housing. For adults without disabilities, all housing issues are significantly different for adults with disabilities except living in an overcrowded home (t = −1.3441, $p = 0.1856$). Adults with disabilities are more likely to live in old housing (t = −16.777, $p < 0.001$) but less likely to experience all other housing issues: lacks a complete kitchen (t = 10.3181, $p < 0.001$), lacks complete plumbing (t = 5.2579, $p < 0.001$), high housing-cost burden (t = 30.6175, $p < 0.001$), and poor housing (t = 27.0892, $p < 0.001$).

Table 1. State level housing issues and type of housing by disability status, paired sample t-tests.

	Range	M	SD	Analysis		
				N	t	sig
Housing issues						
Lacks complete kitchen						
Disabled	0.40–3.40	1.09	0.53	40	10.3181	***
Not disabled	0.20–1.80	0.48	0.28			
Lacks complete plumbing						
Disabled	0.20–4.60	0.78	0.14	31	5.2579	***
Not disabled	0.10–2.40	0.37	0.07			
Overcrowded						
Disabled	1.10–11.80	3.72	1.87	46	−1.3441	
Not disabled	1.40–12.50	3.93	2.33			
High housing-cost burden						
Disabled	24.40–50.50	32.77	4.91	52	30.6175	***
Not disabled	14.50–30.70	19.83	4.00			
Poor housing						
Disabled	8.00–21.60	13.96	3.01	52	27.0892	***
Not disabled	4.40–13.60	7.00	2.00			
Old housing						
Disabled	12.00–51.40	30.18	9.22	52	−16.777	***
Not disabled	17.60–61.30	37.57	9.91			
Type of housing						
House						
Disabled	30.40–76.00	65.54	8.25	52	−18.4600	***
Not disabled	43.60–84.30	75.49	7.26			
Apartment						
Disabled	12.50–69.60	24.68	11.23	52	10.3219	***
Not disabled	9.10–56.40	18.87	8.93			
Mobile home						
Disabled	0.80–24.90	10.36	6.24	49	10.9570	***
Not disabled	0.30–17.30	5.96	4.10			

*** $p < 0.001$.

In addition to housing issues, type of housing is reported, with the most common type of housing for disabled adults per state being houses (M = 65.54%, SD = 8.425) followed by apartments (M = 24.68%, SD = 11.228), and mobile homes (M = 10.36%, SD = 6.244). Adults without disabilities are more likely to live in houses (t = −18.4600, $p < 0.001$) and less likely to live in apartments (t = 10.3219, $p < 0.001$) or mobile homes (t = 10.9570, $p < 0.001$), compared to adults with disabilities.

Our analysis identified clear differences from the comparison of disabled and non-disabled persons, with disabled persons more likely to face poor housing, especially associated with being more likely to have serious deficiencies in plumbing and kitchen. Additionally, persons with disabilities are more likely to have a higher cost burden for housing and less likely to live in older homes than persons without disabilities. Persons with disabilities are also more likely to live in apartments or mobile homes than persons

without disabilities (See Table 1). This implies a clear distinction between persons with and without disabilities and the need to address housing as a social determinant of health, where persons with disabilities have potentially both greater affordability crises and a greater livability crises in their homes than the population at large.

3.2. Housing Issues

Table 2 contains a correlation matrix of each housing issue for disabled adults by state. The percent of housing with incomplete plumbing per state is strongly positively associated with housing with incomplete kitchens per state (r = 0.802, $p < 0.001$). States with higher rates of overcrowding have higher housing-cost burden (r = 0.439, $p = 0.002$) and higher rates of poor housing (r = 0.496, $p < 0.001$). States with high housing-cost burden have higher rates of poor housing (r = 0.878, $p < 0.001$). States that have a high housing-cost burden have lower rates of people living in older housing (r = −0.329, $p = 0.017$). States with a high rate of poor housing also have a high rate of overcrowded homes (r = 0.496, $p < 0.001$) and a high rate of housing-cost burden (r = 0.878, $p < 0.001$); however, they have lower rates of old housing (r = −0.323, $p = 0.019$). States with high rates of old housing have lower housing-cost burden (r = −0.329, $p = 0.017$) and lower rates of poor housing (r = −0.323, $p = 0.019$).

Table 2. Housing Issues by State for Adults with Disabilities, Correlation Matrix.

	Incomplete Kitchen (%)	Incomplete Plumbing (%)	Overcrowded Home (%)	Housing Cost Burden (%)	Poor Housing (%)
Incomplete Plumbing (%)	0.802 **				
Overcrowded Home (%)	0.182	−0.050			
Housing-Cost Burden (%)	−0.217	−0.315	0.439 **		
Poor Housing (%)	−0.017	−0.111	0.496 ***	0.878 ***	
Old Housing (%)	0.079	0.209	−0.047	−0.329 *	−0.323 *

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. blue indicate positive correlations, red indicate negative correlations, darker color indicates a stronger correlation.

3.3. Housing Issues in Association with Other Housing Issues for Disabled Adults

Table 3 contains analytical findings of housing issues associated with type of housing and other housing issues: incomplete kitchen, incomplete plumbing, overcrowded home, housing-cost burden, poor housing, and old housing. For incomplete kitchens, in Model 1, there is a strong positive relationship between the percentage of disabled adults without complete plumbing and those without complete kitchens (β = 0.67, $p < 0.001$), with 60.7% of the variability for those with incomplete kitchens being accounted for by those with incomplete plumbing ($r^2 = 0.607$).

Model 2 examines the association between incomplete plumbing as predicted by other housing issues and types of housing. States with higher rates of adults with disabilities living with incomplete plumbing have significantly higher rates of disabled adults with incomplete kitchens (β = 0.58, $p < 0.001$) and higher rates of poor housing (β = 0.89, $p = 0.033$) but lower rates of disabled adults with housing-cost burden (β = −0.97, $p = 0.030$). In this context, 66.2% of the variability with incomplete plumbing is accounted for by housing issues and type of housing ($r^2 = 0.662$).

Table 3. Housing issues by other housing issues and type of housing by state for adults with disabilities, regression.

	Model 1: Incomplete Kitchen		Model 2: Incomplete Plumbing		Model 3: Overcrowded Home		Model 4: Housing-Cost Burden		Model 5: Poor Housing		Model 6: Old Housing	
	β	sig	β	sig	β	sig	β	sig	β	sig	β	sig
Housing Issues												
Incomplete Kitchen			0.58	***	0.37		−0.08		0.05		2.16	
Incomplete Plumbing	0.67	***			−0.26		−0.20	*	0.21	*	3.92	
Overcrowded Home	0.25		−0.15				0.01		0.09		−0.04	
Housing-Cost Burden	−0.45		−0.97	*	0.08				0.94	***	2.46	*
Poor Housing	0.23		0.89	*	0.66		0.83	***			−3.08	*
Old Housing	0.12		0.26		−0.01		0.17	*	−0.16	*		
Type of Housing [a]												
House	−0.03		0.01		0.06		−0.05		−0.06		0.18	
Mobile Home	−0.22		−0.27		0.02		−0.26	**	0.18	†	1.21	***
Model Fit												
Constant	1.86		1.8		−6.20		17.00	**	−4.00		−33.81	
r^2	0.607		0.662		0.417		0.932		0.922		0.6303	

[a] apartment is reference group. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Model 3 examines the association between overcrowded home as predicted by other housing issues and types of housing. No housing issues nor type of housing are significant predictors of the percentage of disabled adults living in overcrowded homes.

As displayed in Model 4, states with higher percentages of adults with disabilities with higher housing-cost burden also have higher rates of these adults in poor housing (β = 0.83, $p < 0.001$), higher rates of older housing (β = 0.17, $p = 0.020$), lower rates of houses with incomplete plumbing (β = −0.20, $p = 0.030$), and lower rates of people living in mobile homes (β = −0.26, $p = 0.002$). A staggering 93.2% of the variation in housing-cost burden is accounted for by housing issues and type of housing ($r^2 = 0.932$).

Model 5 produced findings that indicate that states with high rates of poor housing are associated with higher rates of housing-cost burden (β = 0.94, $p < 0.001$) and houses with incomplete plumbing (β = 0.21, $p = 0.033$) as well as lower rates of old housing (β = −0.16, $p = 0.048$). Of note, given the small sample size, it is worth noting that poor housing rates are marginally significantly associated with higher rates of people living in mobile homes (β = −0.186, $p = 0.060$).

The association between housing issues, type of housing, and the percentage of disabled adults living in old housing is reported in Model 6. States with higher percentages of old housing have more people with high housing-cost burden (β = −3.08, $p = 0.048$) and more people living in mobile homes (β = 1.21, $p < 0.001$) but fewer people with poor housing (β = −3.08, $p = 0.020$). Housing issues and type of housing account for 63.03% of the variation in state-level percentages of disabled adults living in old housing ($r^2 = 0.6303$).

4. Discussion

We found that the increasing cost burden of housing is inversely associated with issues of plumbing, housing age, and the concentration of mobile homes in states, while poor housing conditions are associated with increasing plumbing issues, increasing age of homes, and increasing housing-cost burdens. In Table 1, we demonstrate that persons with disabilities have distinct differences in both the livability of their homes and the cost burdens they face in retaining their homes. We utilize this comparison to clearly articulate our theoretical question on the need to address disability and disability access in the context of the housing question and ongoing housing crisis within the United States for persons with disabilities.

However, the geography of that distinction is not uniform across the nation (see Table 2) and distinct state-level differences were observed. States where people with

disabilities face high housing burdens are also more likely to face poor housing conditions and overcrowding, placing greater strain on both livability and affordability. Homes in states where disabled adults did not have a complete kitchen were more likely to not have complete plumbing. In contrast, states where persons with disabilities had homes without complete plumbing had significantly higher rates of incomplete plumbing and poor housing, but homes in those states were affordable, whereas states with a high cost burden were more likely to have poor housing and older housing, but less likely to have incomplete plumbing and the housing was less likely to be a mobile home. States with poor housing were more likely to have incomplete plumbing and have a high-cost burden but were newer. Housing in states with older houses was more expensive and more likely to be a mobile home but was less likely to be classified as poor housing (see Table 3).

In states with a greater percentage of older home stock, persons with disabilities may face fewer affordability and livability issues. This implies that both medical practitioners and urban policy and planning experts need to consider the conditions of housing stock for persons with disabilities, especially in states where a large amount of housing stock has been completed in the last 30 years, as this housing stock is more likely to have created distinct challenges for affordability and overcrowded conditions.

This paradox of affordability vs. livability requires that scholars and practitioners consider both housing conditions and affordability in the study and support of persons with disabilities, and these considerations must be tailored to state and local housing dynamics to meet the needs of persons with disabilities where they live.

As we have demonstrated, persons with disabilities are significantly more likely to have poor housing conditions and higher housing-cost burdens than those without disability. This means there is likely a distinct tradeoff between affordability and livability that persons with disabilities face in the context of housing, raising the prospect of greater housing precarity. Increasing housing precarity can imply both the need to accept lower housing conditions to remain near medical facilities and healthcare providers or the need to relocate to lower cost housing away from facilities and healthcare providers. In either instance, increasing housing precarity exacerbates the existing disparities of health outcomes and the long-term well-being of persons with disabilities. It therefore becomes paramount to consider housing conditions and affordability as primary factors in social determinants of health and in the provision and support of persons with disabilities.

From these theoretical and substantive positions, we argue that continued work needs to be pursued to understand housing selection and geospatial variability for persons with disabilities. We show that states with older housing stock are more likely to have a higher proportion of persons living in mobile homes and face higher housing-cost burdens (see Table 3). This may imply that persons with disabilities seek lower-cost housing alternatives in the form of mobile homes when faced with high housing costs in some states. Combined with the continued relocation and reorganization of hospitals and healthcare facilities from poorer to more affluent areas, and the increasing use of remote health and telehealth methods, it is likely to create unique conditionalities at more local levels. Under these conditions, how are selection, choices, and mobility being impacted by macro conditions in both housing affordability and the provision of healthcare and health services at local levels? A more nuanced understanding of differences within states, at the county level, and between urban and rural geographies, combined with a more complete understanding of the gap between disabled and non-disabled adults, would provide further details in the question of housing choice for persons with disabilities. Finally, we argue the need to clearly address housing policy with the intentional inclusion of disabled people in planning and policy making.

5. Conclusions

Housing issues disproportionately affect people with disabilities in the United States. Across all housing issues tested, adults with disabilities were more likely to not have a complete kitchen, not have complete plumbing, have a higher housing-cost burden, and

have poorer housing when compared with adults without disabilities. Adults without disabilities were more likely to live in older housing compared with adults with disabilities. Beyond housing issues, there were substantive differences in types of housing, where adults without disabilities were more likely to live in houses while adults with disabilities were more likely to live in apartments or mobile homes. Further examination focusing on adults with disabilities indicated that housing issues are often compounded, with over a third of housing issues presenting with an additional housing issue.

We argue that the multi-dimensional nature of housing, through cost burdens, upkeep, maintenance, renting vs. ownership, and types of housing prevalent in the United States, creates a paradox of livability vs. affordability for adults with disabilities. Our analysis sheds light on the complex interplay between disability and housing across states, urging a reevaluation of societal expectations and policy frameworks. It underscores the urgency of explicitly considering housing conditions and affordability as primary factors in the social determinants of health and in the policies and practices of supporting persons with disabilities.

Sociology, especially urban sociology, has largely underinvestigated and failed to consider people with disabilities as a significant underserved population (Gilderbloom and Rosentraub 1990). Existing studies have associated housing and housing precarity with health outcomes but without the context of disability and the importance of community living for persons with disabilities. As the field evolves, future research should delve into the specific challenges faced by subgroups within the disabled population, incorporating innovative housing solutions and leveraging technology to enhance accessibility and inclusivity. Through nuanced insights, this analysis paves the way for a more informed, empathetic, and inclusive approach to housing for individuals with disabilities.

Author Contributions: Conceptualization, R.K.A. and D.S.P.; methodology, R.K.A. and D.S.P.; software, R.K.A.; validation, R.K.A., D.S.P. and C.M.S.; formal analysis, R.K.A.; investigation, R.K.A., D.S.P. and C.M.S.; resources, R.K.A., D.S.P. and C.M.S.; data curation, R.K.A.; writing—original draft preparation, R.K.A., D.S.P. and C.M.S.; writing—review and editing, R.K.A., D.S.P. and C.M.S.; visualization, R.K.A. and D.S.P.; supervision, R.K.A.; project administration, R.K.A. and D.S.P.; funding acquisition, R.K.A. and D.S.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding. This project was made possible by the partnership between Shepherd Center and Georgia State University's Department of Sociology.

Institutional Review Board Statement: Ethical review and approval were waived for this study due to the use of secondary, state-level, aggregated data.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data can be found in the Disability Statistics Compendium produced by the Centers for Research on Disability at the University of New Hampshire.

Conflicts of Interest: The authors declare no conflict of interest.

References

Airgood-Obrycki, Whitney, Alexander Hermann, and Sophia Wedeen. 2022. "The Rent Eats First": Rental Housing Unaffordability in the United States. *Housing Policy Debate* 33: 1–21. [CrossRef]

Altman, Barbara M., and Amy Bernstein. 2008. *Disability and Health in the United States, 2001–2005*. Hyattsville: National Center for Health Statistics, DHHS Publication, no. (PHS) 2008–1035.

Boustan, Leah, and Allison Shertzer. 2013. Population Trends as a Counterweight to Central City Decline, 1950–2000. *Demography* 50: 125–47. [CrossRef]

Burns, Marguerite E. 2009. Medicaid Managed Care and Health Care Access for Adult Beneficiaries with Disabilities. *Health Services Research* 44: 1521–41. [CrossRef]

Clark, David. 2004. *Urban World/Global City*. London: Routledge. [CrossRef]

Colburn, Gregg, and Ryan Allen. 2018. Rent Burden and the Great Recession in the USA. *Urban Studies* 55: 226–43. [CrossRef]

Cornelissen, Sharon, and Christine Jang-Trettien. 2023. Housing in the Context of Neighborhood Decline. In *The Sociology of Housing: How Homes Shape Our Social Lives*. Chicago: University of Chicago Press.

Desmond, Matthew. 2018. Heavy is the House: Rent Burden Among the American Urban Poor. *International Journal of Urban and Regional Research* 42: 160–70. [CrossRef]
Desmond, Matthew, and Rachel Tolbert Kimbro. 2015. Eviction's Fallout: Housing, Hardship, and Health. *Social Forces* 94: 295–324. [CrossRef]
Duranton, Gilles, and Diego Puga. 2014. The Growth of Cities. In *Handbook of Economic Growth*. Amsterdam: Elsevier B.V. All, pp. 781–853.
Edin, Kathryn, and Laura Lein. 1997. *Making Ends Meet: How Single Mothers Survive Welfare and Low-Wage Work*. New York: Russell Sage Foundation.
Engel, George L. 1981. The clinical application of the biopsychosocial model. *The Journal of Medicine and Philosophy* 6: 101–24. [CrossRef]
Erickson, William. 2012. A Guide to Disability Statsitics from the American Community Survey (2008 forward). Available online: https://ecommons.cornell.edu/items/98446eb2-bec3-41d8-94d8-4fb82c7506a7 (accessed on 23 May 2024).
Florida, Richard. 2005. *Cities and the Creative Class*. London: Routledge.
Foley, Donald L. 1980. The Sociology of Housing. *Annual Review of Sociology* 6: 457–78. [CrossRef]
Friedman, Carli. 2021. Disparities in Social Determinants of Health Amongst People with Disabilities. *Taylor and Francis Online* 71: 101–17. [CrossRef]
Frier, Amanda, Fiona Barnett, Sue Devine, and Ruth Barker. 2018. Understanding Disability and the 'Social Determinants of Health': How Does Disability Affect Peoples' Social Determinants of Health? *Disability and Rehabilitation* 40: 538–47. [CrossRef]
Gabriel, Stuart, and Gary Painter. 2020. Why affordability matters. *Regional Science and Urban Economics* 80: 103378. [CrossRef]
Gilderbloom, John I., and Mark S. Rosentraub. 1990. Creating the Accessible City: Proposals for Providing Housing and Transportation for Low Income, Elderly and Disabled People. *American Journal of Economics and Sociology* 49: 271–82. [CrossRef]
Glaeser, Edward L., Jed Kolko, and Albert Saiz. 2001. Consumer City. *Journal of Economic Geography* 1: 27–50. [CrossRef]
Grogan, Paul S., and Tony Proscio. 2001. *Comeback Cities: A Blueprint for Urban Neighborhood Revival*. Boulder: Westview Press.
Hall, Matthew, and Barrett Lee. 2010. How Diverse are US Suburbs? *Urban Studies* 47: 3–28. [CrossRef]
Harrison, Malcolm. 2004. Defining Housing Quality and Environment: Disability, Standards and Social Factors. *Housing Studies* 19: 691–708. [CrossRef]
Howell, Aaron. J., and Jeffrey M. Timberlake. 2014. Racial and Ethnic Trends in the Suburbanization of Poverty in U.S. Metropolitan Areas, 1980–2010. *Journal of Urban Affairs* 36: 79–98. [CrossRef]
Iezzoni, Lisa. 2011. Eliminating Health and Health Care Disparities Among the Growing Population of People with Disabilities. *Health Affairs* 30: 1947–54. [CrossRef]
Immergluck, Dan, Ann Carpenter, and Abram Lueders. 2016. *Declines in Low-Cost Rented Housing Units in Eight Large Southeastern Cities*. FRB Atlanta Community and Economic Development Discussion Paper, 2016-3. Atlanta: Federal Reserve Bank of Atlanta.
Kaufman, Brystana G., Sharita R. Thomas, Randy K. Randolph, Julie R. Perry, Kristie W. Thompson, George M. Holmes, and George H. Pink. 2016. The Rising Rate of Rural Hospital Closures. *The Journal of Rural Health* 32: 35–43. [CrossRef]
Kneebone, Elizabeth, and Emily Garr. 2010. *The Suburbanization of Poverty*. Washington, DC: Brookings Institute.
Krahn, Goria L., Deborah Klein Walker, and Rosaly Correa-De-Araujo. 2015. Persons with Disabilities as an Unrecognized Health Disparity Population. *American Journal of Public Health* 105: S198–S206. [CrossRef]
Larrimore, Jeff, and Jenny Schuetz. 2017. *Assessing the Severity of Rent Burden on Low-Income Families*. Washington, DC: Board of Governors of the Federal Reserve System.
Lawrence, Patricia, and Raeda Anderson. 2023. Social Determinants of Health and Disability: Examination of Poverty Rates across Disability Status by State. *Archives of Physical Medicine and Rehabilitation* 104: e5. [CrossRef]
Lawrence, Patricia, and Raeda Anderson. 2024. Poverty and Disability: A State-Level Geospatial Analysis. *Clinical Nursing Research*. [CrossRef] [PubMed]
Lees, Lorretta. 2008. Gentrification and Social Mixing: Towards an Inclusive Urban Renaissance? *Urban Studies* 45: 2449–70. [CrossRef]
Márton, Sándor Mészáros, Gergely Polk, and János Szabó (represented by counsel, János Fiala, Disability Rights Center). 2013. *Convention on the Rights of Persons with Disabilities*. New York: United Nations.
McCabe, B. J., and Eva Rosen, eds. 2023. *The Sociology of Housing: How Homes Shape Our Social Lives*. Chicago: University of Chicago Press.
McCarthy, Sean, Dylana Moore, W. Andrew Smedley, Brandon M. Crowley, Shannon W. Stephens, Russell L. Griffin, Lauren C. Tanner, and Jan O. Jansen. 2021. Impact of Rural Hospital Closures on Health-care Access. *Journal of Surgical Research* 258: 170–78. [CrossRef] [PubMed]
Meyers, Marcia K., and Judy M. Lee. 2003. Working but poor: How are families faring? *Children and Youth Services Review* 25: 177–201. [CrossRef]
Pasciuti, Daniel, and Isaac Jilbert. 2015. "The Building Blocks of Deprivation" in *Jacobin*. Available online: https://jacobin.com/2015/05/baltmore-freddie-gray-protests-poverty-inequality/ (accessed on 1 September 2023).
Pasciuti, Daniel, Tabitha Ingle, George Usmanov, Joy Dillard Appel, and Lauren Sudeall. 2021. *Courts in Crisis Part III: The Rising Tide of the Rental Housing Crisis in Georgia*. Center for Access to Justice. Available online: https://law.gsu.edu/document/courts-in-crisis-part-iii-the-rising-tide-of-the-rental-housing-crisis-in-georgia/?wpdmdl=210223 (accessed on 1 September 2023).
Pattillo, Mary. 2013. Housing: Commodity versus Right. *Annual Review of Sociology* 39: 509–31. [CrossRef]

Paul, Shreya, Marisa Rafal, and Andrew Houtenville. 2021. *Annual Disability Statistics Compendium: 2021*. Durham: University of New Hampshire, Institute on Disability.

Semeah, Luz Mairena, Sherry Ahrentzen, Diane C. Cowper-Ripley, Leslie M. Santos-Roman, Julia O. Beamish, and Kristine Farley. 2019. Rental Housing Needs and Barriers from the Perspective of Veterans with Disabilities. *Housing Policy Debate* 29: 542–58. [CrossRef]

Sharkey, Patrick, and Jacob W. Faber. 2014. Where, when, why, and for whom do residential contexts matter? Moving away from the dichotomous understanding of neighborhood effects. *Annual Review of Sociology* 40: 559–79. [CrossRef]

Sharma, Madhuri, and Makhail Samarin. 2022. Rental Tenure and Rent Burden: Progress in Interdisciplinary Scholarship and Pathways for Geographical Research. *GeoJournal* 87: 3403–21. [CrossRef] [PubMed]

Small, Mario L., Robert A. Manduca, and William R. Johnston. 2018. Ethnography, neighborhood effects, and the rising heterogeneity of poor neighborhoods across cities. *City & Community* 17: 565–89.

Small, Mario Luis, and Jessica Feldman. 2011. Ethnographic evidence, heterogeneity, and neighbourhood effects after moving to opportunity. In *Neighbourhood Effects Research: New Perspectives*. Dordrecht: Springer Netherlands, pp. 57–77.

Sudeall, Lauren, and Daniel Pasciuti. 2021. Praxis and Paradox: Inside the Black Box of Eviction Court. *Vanderbilt Law Review* 74: 1365.

Thomas, Timothy A. 2017. Forced Out: Race, Market, and Neighborhood Dynamics of Evictions. Ph.D. dissertation, University of Washington, Seattle, WA, USA.

Wilson, William. J. 2006. Foreward. In *The Geography of Opportunity: Race and Housing Choice in Metropolitan America*. Edited by Xavier de Souza Briggs. Washington, DC: Brookings Institution Press, pp. ix–xiv.

Wolbring, Gregor. 2011. People with Disabilities and Social Determinants of Health Discourses. *Canadian Journal of Public Health* 102: 317–19. [CrossRef]

World Health Organization. 2023. Social Determinants of Health. Available online: https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1 (accessed on 9 November 2023).

Xing, Victor. 2018. *Bifurcation as Seen in Silicon Beach Prosperity and Eviction Boom*. Munich: University Library of Munich.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.