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of Housing Insecurity*

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Roadmap to a Unified Measure of Housing Insecurity

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Abstract:

We argue for the development of a unified measure of housing insecurity, which includes the creation of a consistent definition and an instrument that allows researchers to accurately measure the problem. Our survey of the literature uncovers that there are multiple terms and definitions used to describe housing insecurity. Based on our analysis, we argue for one term, housing insecurity, and we put forth a definition that captures the various dimensions of this issue. Ultimately, we believe expert policy makers, practitioners, and academicians should convene to define and develop this measure, and that the development of the U.S. Food Security Survey Module provides a blueprint for how this can be accomplished.

I. Introduction

Two basic necessities in life are food and shelter. Since the establishment of a universal food insecurity measure in 1995, a vast research agenda has developed focusing on understanding the social costs of this problem and how and why some families are at risk of or experience food insecurity whereas others do not. Despite the importance of adequate housing to health and well-being, stakeholders including researchers, housing analysts, and policy makers lack a unified measure that can capture the multidimensional aspects of secure and stable housing. In this paper we argue for the creation of a uniform instrument to assess housing insecurity that can capture the multidimensional aspects of housing such as access and quality. In addition to examining how housing insecurity has been conceptualized across the literature, we provide a roadmap for the creation of a new measure of housing insecurity that is based on the development of the U.S. Food Security Survey Module incorporated into the Current Population Survey (CPS) annually since 1995 (National Research Council, 2006).

II. What is Housing Insecurity?

More than a billion people in the world are inadequately housed despite international law that recognizes housing as a human right (United Nations, 2014). The importance of housing goes beyond the material infrastructure that serves as protection from the elements (Shaw, 2004); housing is interrelated to physical, social, and psychological well-being (Padgett, 2007). Research has primarily focused on either the health and education threats associated with substandard housing and neighborhoods (Ludwig et al., 2013; Sanbonmatsu et al., 2006; Levanthal and Brooks-Gunn, 2003; Bashir, 2002; Katz et al., 2000, Marsh, Gordon, Heslop, & Pantazis, 2000) or the psychosocial benefits of housing as a home (Dupuis & Thorns, 1998; Low & Lawrence-Zuniga, 2003; Padgett, 2007; Shaw, 2004; Somerville, 1992). Lack of housing

altogether—or homelessness—has also been a focus of research, which brings into stark relief the fundamental importance of housing security as a prerequisite for health, employment, and various other aspects of daily functioning (Henwood, Cabassa, Craig, & Padgett, 2013).

Similar to food insecurity, most definitions of housing insecurity in some way address access to adequate housing, quality of housing obtained, and uncertainty regarding the ability to sustain housing. The United Nations describes adequate housing as consisting of the following criteria: (a) tenure security that guarantees legal protection against forced evictions, harassment, and other threats; (b) availability of materials and infrastructure such as safe drinking water, adequate sanitation, energy for cooking, heating, and lighting, food storage, and refuse disposal; (c) affordability such that paying for housing does not compromise other human rights; (d) habitability that includes protection against the cold, damp, heat, rain, wind, other threats to health, and structural hazards; (e) location that is not polluted or dangerous and that does not cut off access to employment opportunities, health care services, schools, or other critical social institutions; and (f) accessibility that can meet the specific needs of disadvantaged and marginalized groups and does not compromise the expression of cultural identity (United Nations, 2014). The United Nations provides a framework to monitor human rights including the right to housing with several suggestions for housing indicators such as the share of public expenditure on subsidized or public housing, reported cases of forced evictions, and rates of homelessness, but does not provide a uniform measure of adequate housing or housing security (United Nations, 2014).

Likewise, in 1969 the U.S. Department of Health and Human Services (DHHS) defined housing instability using five indicators: (a) exorbitant housing costs relative to income (greater than 30%); (b) inferior housing quality (e.g., inadequate plumbing, heat, electricity, leaks, holes,

etc.); (c) neighborhood instability (e.g., high rates of poverty, crime, and unemployment; poor city services; litter; noise; pollution, etc.); (d) overcrowding; and at the extreme, (e) the condition of homelessness (Office of the Assistant Secretary for Planning and Evaluation, 1969). This definition is considered distinct from what can be thought of as an extreme form of housing insecurity, namely homelessness, that has received a tremendous amount of attention by academics and policy makers in terms of defining homelessness and allocating resources for it.

In the United States, close to half a million people experience homelessness on any given day (Henry, Shivji, de Sousa, & Cohen, 2015). Efforts to address this extreme form of housing insecurity have dedicated infrastructure and oversight. Congress provides direct funds to address homelessness through the McKinney Vento Act and communities across the United States are required to maintain homelessness management information systems to receive federal funding to address homelessness. Each year, communities across the country also conduct a homelessness count to monitor the scope of the problem. An Annual Homeless Assessment Report (AHAR) is submitted to Congress each year that includes monitoring from both homelessness management information systems and homelessness counts. This type of monitoring has helped direct resources and enabled strategies that have reduced the overall number of chronically homeless adults and homeless veterans in the past 5 years. Nevertheless, the definition of what constitutes homelessness has been a moving target¹ and is not considered to be part of a unified construct of housing insecurity that can be measured on a continuum even

¹Beginning in 2009, federal definitions of homelessness were expanded to permit inclusion of persons at “imminent risk of homelessness” to expand access to homelessness assistance benefits. Such persons include individuals or families whose residence will be lost within 14 days of application for homelessness assistance, for whom no subsequent residence has been identified, and for whom resources are lacking to obtain other permanent housing. Another group for which homeless assistance has been expanded is individuals and families fleeing or attempting to flee domestic violence (U.S. Department of Housing and Urban Development, 2012).

if interventions to address homelessness promote housing stability and security (Padgett, Henwood, & Tsemberis, 2016).²

As compared to the extreme of homelessness, there is much less research exploring other facets of housing insecurity.³ This could partially be due to the fact that individuals and families experiencing housing insecurity are invisible to the public. Nonetheless, because of the limited focus on the less severe aspects of housing insecurity, far less is known about its prevalence and the costs it imposes on society. Developing a common language and uniform measurement tool would help society to mobilize resources, improve its understanding of the importance of this invisible problem, and generate solutions. We therefore make two recommendations. Our first recommendation is as follows:

Recommendation 1: Develop a common definition of housing insecurity.

Some studies have begun to estimate the prevalence of housing insecurity (see Table 1). We can see from Table 1 that there are costs to families and individuals across the age spectrum who have been exposed to housing insecurity. Some of these costs include increased likelihood of food insecurity, poor physical and mental health, low birth weight, antisocial behavior among youth, and developmental risk in children. However, as can also be seen in Table 1, each article uses a different measure to capture housing insecurity. Some studies research one aspect of housing insecurity, such as how many times a participant has moved in the past year (e.g., Carrion et al., 2014), whereas others, such as Cutts et al. (2011), use multiple dimensions of

²Housing First is an example of an effective intervention for homelessness, with research consistently demonstrating its impact on housing stability. Despite, or perhaps because of, overwhelmingly positive housing outcomes, there has been limited discussion of differences in the operationalization of housing stability and retention in studies of Housing First, which reflects inconsistencies in the definition of these concepts in the broader body of research on homelessness and housing (Byrne, Henwood & Scriber, in press).

³Perhaps because the definition has only recently been expanded, the expansion is relatively modest, and because these individuals are likely to be less visible than individuals experiencing “literal homelessness,” this subpopulation has received less attention.

housing insecurity, such as multiple moves and overcrowding. Nonetheless, it is rarely the case that all of the available dimensions of housing insecurity are combined into one indicator, even when more than one measure is available in a survey. This is probably due to the fact that there is no official unifying concept or measure available to define housing insecurity. It is impossible to estimate the effect of housing insecurity without bias if we don't first adequately define it.

Without a formal definition, researchers, policy makers, and practitioners will be unclear about the instruments that should be used to capture this construct.

One possible definition (based on the overlapping descriptions set forth by DHHS and the United Nations) for housing security is as follows:

Availability of and access to stable, safe, adequate, and affordable housing and neighborhoods regardless of gender, race, ethnicity, or sexual orientation.

Likewise, housing insecurity would be defined as follows:

Limited or uncertain availability of stable, safe, adequate, and affordable housing and neighborhoods; limited or uncertain access to stable, safe, adequate, and affordable housing and neighborhoods; or the inability to acquire stable, safe, adequate, and affordable housing and neighborhoods in socially acceptable ways.

Homelessness could be thought of as a sufficient but unnecessary condition of housing insecurity. Although we believe this is a comprehensive definition of housing insecurity, we realize that it is most appropriate for housing policy experts and researchers to come together to determine a suitable definition. Nonetheless, we highly recommend that any definition of housing insecurity capture all of its dimensions, as previously discussed, which include:

1. Housing stability
2. Housing affordability

3. Housing quality
4. Housing safety
5. Neighborhood safety
6. Neighborhood quality

Along with this convening of housing experts, we also suggest inviting instrumental players in the development and implementation of the food insecurity measure to share insight on the development and implementation of the U.S. Food Security Survey Module.

As previously mentioned, a second point of concern, which becomes evident when reviewing the literature on housing insecurity, is the inconsistent language used to describe this concept. Table 1 lists 83 articles that focus on some aspect of housing security. Of the articles that do not focus on homelessness (55), 13 (roughly 24%) use the term housing security or insecurity, whereas 35 (about 64%) use housing stability or instability. Other terms used to describe housing security or insecurity are housing affordability, housing insufficiency, housing satisfaction, and risk of homelessness. Having multiple terms to describe a general social problem could lead to confusion and makes it hard to mobilize resources and efforts to solve the problem. Much like the case of food insecurity, using a common term to describe housing uncertainty would be beneficial to public relations, policy makers, practitioners, and researchers.

To this point, we have primarily used the term housing insecurity to discuss the multiple dimensions of inadequate housing because we believe that this should be the universal language that is adopted to address this problem. Although it is clear that this is not the trend in the literature, our argument is based on the conceptual similarities between housing insecurity and food insecurity. Moreover, given the fact that food insecurity is a well-known and widely accepted term, it should be relatively easy to mobilize research, policy, practitioners, and public

relations around the term housing insecurity. Nonetheless, the official term should be discussed and agreed upon when expert researchers, policy makers, and practitioners convene to determine an official definition of housing insecurity.

III. Toward a Standardized Measure of Housing Insecurity

In the previous section we proposed using a common definition and language when discussing issues regarding the access to and the quality of housing. This term, housing insecurity, and its proposed definition captures all of the key dimensions of housing insecurity discussed by DHHS and the United Nations. Even if this definition and name were to be accepted by researchers, practitioners, and policy makers, we still lack a valid instrument to measure housing insecurity. The less accurately we measure housing insecurity, the more biased our estimates will be when studying its overall consequences. The importance of secure housing to society could be severely underestimated if we do not develop a reliable instrument that captures all of the dimensions of housing security. In particular, research with the specific goal of understanding the total impact of housing security on various outcomes might suffer from attenuation (downward) bias if housing insecurity is incompletely measured.

We can illustrate this point using the classical errors-in-variables model. Suppose that a researcher wants to estimate the effect of housing insecurity on depression in children. The researcher models this relationship with a simple regression function:

$$(1) \quad d_i = \beta h s_i + u_i,$$

for $i = 1$ to N , where d_i is a scale measuring depression in child i , and $h s_i$ is a continuous measure of the child's household housing security. For illustration purposes, assume that the means of d and $h s$ are 0 and that there is no measurement error for the dependent variable, d . However, the

researcher observes housing insecurity incompletely, and only has access to one measure of housing insecurity, such as overcrowding, which results in the following⁴:

$$(2) \quad \widetilde{hs}_i = hs_i + v_i.$$

For example, assume that included in v are measures capturing other dimensions of housing insecurity, which would include, for example, variables reflecting housing affordability, quality, and safety (e.g., leaks in the apartment, access to running water, etc.) and neighborhood quality and safety (e.g., neighborhood crime, pollution, noise, etc.). Also assume that the measurement error has a mean of zero and is uncorrelated with the actual dependent and explanatory variables and the error in equation 1⁵; moreover, assume that equation 1 is correctly specified, i.e., $(u_i hs_i) = 0$. Plugging equation 2 into equation 1, we obtain the following:

$$(3) \quad d_i = \beta(\widetilde{hs}_i - v_i) + u_i = \beta\widetilde{hs}_i + (u_i - \beta v_i).$$

Equation 3 clearly illustrates that the measurement error has been subsumed in the error term, which has caused endogeneity in our model (because \widetilde{hs}_i is clearly correlated to v_i). If we estimate equation 3 using the ordinary least squares estimator, then it is well known that:

$$\hat{\beta} = \frac{cov(\widetilde{hs}_i, d_i)}{var(\widetilde{hs}_i)} = \frac{cov(hs_i + v_i, hs_i + u)}{var(hs_i + v_i)},$$

and

$$plim \hat{\beta} = \frac{\beta \sigma_{hs}^2}{\sigma_{hs}^2 + \sigma_v^2}.$$

If we define $\alpha = \frac{\sigma_{hs}^2}{\sigma_{hs}^2 + \sigma_v^2}$, then we can rewrite $plim \hat{\beta}$ as:

$$plim \hat{\beta} = \alpha\beta,$$

where α is known as the attenuation bias since $0 < \alpha < 1$, causing $\hat{\beta}$ to be biased toward zero.

⁴Note we are assuming that the measurement error is additive.

⁵Mathematically this condition can be written as: $E(v_i d_i) = E(v_i hs_i) = E(v_i u_i) = 0$.

This is not to say that research or policy should not focus on the different facets of housing insecurity separately when appropriate; rather it suggests that to precisely estimate the prevalence of this issue and accurately account for its social costs, we need a comprehensive way to measure the multiple dimensions of housing insecurity. Therefore, our final recommendation is as follows:

Recommendation 2: Develop a validated national measure of housing insecurity that can be assessed at the household level, and, possibly, the individual level.

Similar to our first recommendation, this last step will also require the convening of practitioners, policy makers, and academicians to discuss why and how the instrument should be constructed. However, it goes one step further by implicitly requiring that resources be set aside to aid in the development, testing, analyzing, and refining of the housing insecurity measure, as in the case of the development of the food insecurity instrument (National Research Council, 2006). The goal of this step should be to assess the technical feasibility of such a measure and to develop an instrument that can be incorporated into national surveys with the intent to aid society in understanding and solving the many facets of the housing problem. Although we assert that this instrument should be modeled after the food insecurity instrument, which was designed to capture food insecurity as a continuum and also by severity level, we believe the merit of this idea should be heavily debated among key players in the field, especially if we want to be sensitive to the potential of overinclusion. In other words, we believe we should be just as mindful of avoiding potential false positives as we are false negatives in an effort to efficiently provide resources to this population.

Moreover, there are some important differences between issues concerning housing and food that should not be overlooked when developing a standard measure of housing security.

Take for example the case of older adults; not only is stable affordable housing essential for aging in place (Vega & Wallace, 2016), but what constitutes “adequate” might change for older adults because they often require additional housing modifications to maintain their daily functions. Another example would be women fleeing domestic violence; “adequate” for the class of individuals or families fleeing an abusive home may be deemed as such only if security from an abuser is provided, a circumstance that may require a higher level of security than for other persons. These examples highlight the importance of having a discussion regarding how to develop a standard measure of housing insecurity that will capture the heterogeneity among special populations at risk of experiencing some form of housing insecurity and to the extreme, homelessness.

IV. Concluding Remarks

Throughout this paper, we set forth a roadmap to develop an agreed-upon definition, language, and measure to capture the multiple facets of the housing problem based on the creation of the U.S. Food Security Survey Module. Given conceptual similarities to food insecurity and the success of that term, we propose that the formal language used to refer to housing instability should be housing insecurity. We also developed a possible definition of housing insecurity based on the overlapping concepts of the definitions already put forth by DHHS and the United Nations:

Limited or uncertain availability of stable, safe, adequate, and affordable housing and neighborhoods; limited or uncertain access to stable, safe, adequate, and affordable housing and neighborhoods; or the inability to acquire stable, safe, adequate, and affordable housing and neighborhoods in socially acceptable ways.

Nonetheless, this roadmap does not suggest blindly accepting our suggested language of housing

insecurity or our definition of the problem. Rather we suggest that key researchers, practitioners, and policy makers convene to determine the appropriate language and characterization, regardless of it is a completely new construct or improves upon ours. Moreover, key players from the food insecurity debate should be invited to share their experience on its conceptualization and implementation.

Finally, we also urge these groups to unite to discuss how to develop a standard, proven instrument to measure the various dimensions of housing insecurity that could be incorporated in major surveys across the country and the world. Like the U.S. Food Security Survey Module, we believe this measure should be able to represent the problems of housing insecurity as a continuum and by severity level. As our brief illustration shows, failure to develop such a measure will lead to biased estimates of the full impact of housing insecurity on society; moreover, we will never be able to truly understand the extent to which Americans and the world suffer from problems related to such a basic human right.

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Appendix

Table 1. Literature Focusing on Housing Insecurity

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
<i>Housing Insecurity:</i>							
Bailey et al. (2016)	Academic	Housing Insecurity	Children's Health Watch study, HUD Subsidized Housing Index	"Overcrowding, multiple moves, self-reported difficulty making housing payments"	overcrowding & multiple moves	A 5% increase in SHA can translate to a reduction in the OR of overcrowding by 26% & multiple moves 31%	Families
Baker et al. (2015)	Academic	Housing Affordability	Household, Income, and Labor Dynamics in Australia	Housing Affordability = 30/40 rule	Movement in/out of housing affordability	Significant movement of individuals between affordable and unaffordable housing ranges	Adults
Berzin et al. (2011)	Academic	Homelessness & Housing stability	Rounds 1-11 of National Longitudinal Study of Youth (1997)	<u>Homelessness</u> : youth who "ever experienced homelessness, had no permanent residence, lived in a shelter, on the street, or had no household." <u>Housing stability</u> : "continuous measure of number of moves youth experienced after 18."	Homelessness, housing stability, independence, affordability, neighborhood quality	Of the sample, 15% reported homelessness and more movements of residence. Foster children had a higher likelihood of living in a low quality neighborhood. 'Over 35% living in poor neighborhoods, compared to 26% of matched youth ($\chi^2 = 4.2$, $df = 1$, $p < .05$), and 23% of unmatched youth ($\chi^2 = 11.3$, $df = 1$, $p < .01$)."	Foster Youth
Bossarte et al. (2013)	Government	Housing Instability	2010 Nebraska Behavioral Risk Factor Surveillance Survey	Housing Instability = "answering 'always/usually' to survey question "How often in the past 12 months would you say you were worried or stressed about having enough money to pay your rent/mortgage?"	Frequent mental distress and Suicidal ideation ("Has there been a time in the past 12 months when you thought of taking your own life?")	3.7% of veterans reported housing insecurity. Vets who had reported housing instability over the last year were 5 times more likely to report experiencing mental distress and 6 times more likely to report suicidal ideation than vets who hadn't.	Veterans
Brisson & Covert (2014)	Academic	Housing Instability	Mercy Housing data	Housing Instability = "receipt of Mercy Housing lease violation & fine for late/non-payment of rent"	lease violation	A family who earns \$1000 more in a year is will increase their likelihood of a lease violation by 3-4%. Households with stable benefits were less likely to have a lease violation.	Families
Burgard et al. (2012)	Academic	Housing Instability	Michigan Recession and Recovery Study	Housing Instability = 8-item measure includes: "at least 3 moves in the past 3 years, having moved for cost reasons in the past three years, doubling up, having been homeless, having been evicted in past 12 months, being behind on mortgage,	Health :self-rated health, depression, anxiety attack, and problematic alcohol use	People behind their rent were 3.7 more likely than those who weren't to be depressed, as per the criteria. Those who had a foreclosure were 5.8 times more likely of meeting the criteria for depression and 3.5 times for anxiety.	Adults

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
				being behind on rent, having had a foreclosure in the past 3 years”			
Campbell et al. (2014)	Academic	Housing Insecurity	Household, Income, and Labor Dynamics in Australia	Housing Insecurity: “1. inability to meet payments for housing and utilities 2. Housing payment risk (high costs relative to income, little savings to fall back on, & belong to less prosperous section of the community)”	Rental Arrears	Model 1 (rent arrears) – someone who moved from being adequately employed to underemployed was 1.9 times more likely to experience housing insecurity.	Families
Carrion et al. (2014)	Academic	Housing Instability	Pregnant women 14-21 years old, without high-risk pregnancies, enrolled to receive group/individual. Prenatal care. Audio-handheld assisted personal interviews conducted during second trimester	Housing Instability = Participants asked “how many times have you moved in the past year?” Housing instability defined as 2+ times in last year	Infant birth weight	28.5% were categorized as living in unstable housing. Infants born to women living in stable housing weighed “3155.96 g (SD=532.69), compared to 3028.17 g (SD=641.18)” of women experiencing housing instability.	Infants
Clark (2010)	Academic	Housing Instability	Welfare, Children and Families: A Three-City Study	Housing Instability: residential mobility	Residential mobility	The most reported reasons for moving residences were housing affordability, familial formations of unions and dissolutions, housing quality – particularly in terms of inadequate space, and	Families
Coley et al. (2013)	Academic	Housing (Residential) Instability	Three-City Study (N=2,437)	Housing instability: quality of housing	Child’s emotional, psychological, behavioral, and cognitive functioning	Poor housing quality was most consistently “associated with children/adolescents’ development, operating in part through mothers’ psychological functioning.”	Children
Curtis & Geller (2010)	Academic	Housing Insecurity	Fragile Families and Child Wellbeing study	Housing Insecurity= “Men living in an unstable situation or reported doubling up, skipping a rent payment, or had moved residences more than once per year since their previous survey.”	Authors’ analyzed each of the following measures separately and as a composite measure: homelessness, skipped mortgage or rent payment, evicted, doubling up to save money, doubling up but didn’t pay rent, moved greater than 1 time per year	Housing insecurity rates averaged between 17-19% over multiple waves, 1-2% of which accounted for homelessness. The most common cause of insecurity, 9-12% was “failure to pay full rent/mortgage”	Fathers
Cutts et al. (2011)	Academic	Housing Insecurity	Children’s Health Watch study	Housing Insecurity = Overcrowding, multiple moves	Household food insecurity, child food insecurity, fair or poor child health, child	“Housing insecurity is associated with poor health, lower weight, and	Children

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
					developmental risk, weight-for-age z scores	developmental risk among young children”	
Dickson-Gomez et al. (2008)	Academic	Housing Instability	Housing Status/Stability and HIV Risk Among Drug Users (2004-6), HIV Prevention in High Risk Drug Sites: Project RAP	Housing Instability = defined as “lack of access to housing, housing loss/evictions, and frequent moves”	Access to housing programs, changes in housing status, perceived housing instability	Association between drug use and housing instability (including homelessness) mediated by structural factors (e.g., arrests and criminal convictions) and behaviors (e.g., not paying rent to support habit), which impacted employment, access to housing subsidies, and social support. Access to stable housing may help to mitigate drug use.	Adult Drug Users
Diette & Ribar (2015)	Academic	Housing Insecurity	Journeys Home Survey	Housing Insecurity: “binary measure that measures if a person had a) experienced primary or literal homelessness, b) was living in a camper, hotel, boarding house, or crisis accommodation, or c) was living with friends family or other relatives at any time either 6 months before wave 1 interview or in the time between subsequent wave interviews”	Housing insecurity, Violence	If an individual has experienced housing insecurity or has been a victim to physical violence, or both, the likelihood of them becoming housing secure without suffering further violence are much lower.	Adults
Drake et al. (1989)	Academic	Housing Instability	Sample: outpatients followed by ambulatory community services (analysis sample 187 patients, ages 20-65, 11% were competitively employed)	Housing Instability & homelessness: “5-point scale of stability of living arrangements over prior 6 months rated by clinicians (highly significant problem, significant problem, plus balances minuses, significant support, and highly significant support)”	drug & alcohol use, hospitalization, treatment compliance, psychosocial problems	Homelessness associated with poor adjustment as measured by drug and alcohol abuse, treatment, psychosocial problems, psychiatric symptoms, and rehospitalization.	Adults with Serious/ chronic mental illness
Eastwood & Birnbaum 2007)	Academic	Housing Instability	Sample: 224 adolescents with HIV in NYC clinic	Housing Instability: “predominant homelessness, occasional homelessness, and stable housing”	Past and current housing instability	Previous housing instability predicted by sexual abuse, ceteris paribus. Current housing instability predicted by physical and sexual abuse, and history of arrest, ceteris paribus.	Adolescents with HIV
Fowler et al. (2011)	Academic	Housing Instability	National Longitudinal Study	Housing Instability: “count of the number of residential addresses youth reported	Adolescent depression, criminal justice involvement, smoking	An adolescent history of multiple moves (mobility) predicted poorer functioning	Adolescents

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
			of Adolescent Health (Add Health)	since beginning of the study”		across the aforementioned outcomes in young adulthood.	
Fowler et al. (2015)	Academic	Housing Instability	National Longitudinal Study of Adolescent Health (Add Health)	Housing Instability = “Number of residential addresses youth reported during Wave I & II interviews” (multiple moves)	Adolescent well-being: depression diagnosis, juvenile arrests, and picking up a regular smoking habit	Every residential move increased OR for depression diagnosis by 1.10. Each additional move increased OR for arrests by 1.08 and regular smoking by 1.12	Adolescents
Frank et al. (2010)	Academic	Housing Insecurity	Children’s Health Watch survey	Housing Insecurity= housing secure (“no more than 1 move in previous year & not crowded or doubled up”), moderate insecurity (“crowded and/or doubled up, and moved 2+ times”), severe insecurity (moved 2+ times and household is crowded and/or doubled up)	Measures of child wellbeing: reported health of child, hospitalizations, developmentally at risk on the PEDS, at risk of underweight, at risk of being overweight.	Cumulative hardship (composite measure of food insecurity, housing insecurity, and energy insecurity), negatively associated with wellbeing of infants and toddlers.	Children (4-36 months)
Frederick et al. (2014)	Academic	Housing Stability	Sample: 51 formerly homeless young adults in Canada had open ended qualitative interviews	Housing stability/instability = stability as a continuum or spectrum; at one end, no access to housing of reasonable quality (complete instability) and on the other access to housing of reasonable quality in the absence of threats (complete stability)	Housing Instability measure	They propose the most important factors for a brief/effective measure of housing stability include: “type of housing, recent housing history, current housing tenure, financial status, education and employment status, drug abuse, legal status, and subjective assessments of stability and housing satisfaction”	Adults
Geller & Franklin (2014)	Academic	Housing Insecurity	Fragile Families and Child Wellbeing study	Housing Insecurity = Geller & Curtis definition: mothers considered insecure if indicated having skipped a rent/mortgage payment due to lack of funds, moved more than once per year in the past wave, have been evicted or homeless	Binary indicator of housing insecurity (tested in 4 models)	18% of mothers in study reported some insecurity around time of child’s 5th birthday - most common type being skipping rent/mortgage (11% of total). Women whose partners were recently incarcerated faced insecurity odds nearly 50% higher than their counterparts (OR=1.49). There was a stronger relation between incarceration and insecurity among women who lived with their partners before they were incarcerated (OR= 1.51)	Families
German et al. (2007)	Academic	Housing Instability	Step into Action study (STEP)	Housing instability: residential transience -- participants who moved 2+	Drug related risk behaviors (sharing needles, going to shooting gallery), sex-	Homelessness and residential transience associated with greater HIV risky behaviors as	Adults

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
				times in the past 6 months are transient. Homelessness: participants reported living on the street, homeless, or staying at more than 2 different places a week	related risk behaviors (exchanging sex, having 2 or more sex partners)	measured by drug- and sex-related risk behaviors. Transience significantly associated with drug-related risk behaviors, while homelessness significantly associated with both drug- and sex-related risk behaviors.	
Greder et al. (2008)	Academic	Housing Insecurity	Examining the Well-Being of Rural Latino Immigrant Families	Housing Insecurity = paying "over 30% of income on inadequate housing"	Food insecurity and housing insecurity	45% of families were food insecure. 58.8% of food secure families were homeowners compared to 14.3% of those food insecure. Finding affordable housing was a challenge for these families; they reported downsizing and moving frequently to secure more affordable housing sometimes that was sometimes of poorer quality.	Rural Latino Immigrant Families
Hurlburt et al. (1996)	Academic	Housing Instability	McKinney Project data: participants met DSM-III-R criteria for severe or chronic mental illness	Housing Instability: "Client spends more than 10% of nights without any type of housing & does not achieve stable housing during the first two years"	Housing outcomes: client ability to obtain -- stable independent housing, stable community housing, variable housing, unstable housing, institutional settings, unknown	Access to Section 8 certificates increased an individual's likelihood of attaining independent housing by 4.87 times. Individuals who had no issues related to alcohol abuse at the start of the study had a 2.04 times higher likelihood of maintaining stable housing than those with a history of alcohol abuse/dependence.	Adults with Severe or Chronic Mental Illnesses
Jones (2011)	Academic	Housing Stability	3 years of data collected on 106 former foster youth discharged from a transitional housing facility	Housing stability: "number of different places participants had lived since the last interview; length of time at their current address," including homelessness	Housing stability, education, employment, finances, social support, major life events (e.g., marriage, having a child), public assistance receipt, health and mental health, criminal justice, etc.	Youth who lived in transitional housing reported experiencing more housing stability, greater employment, and less contact with the criminal justice system. Multivariate analysis of housing stability found substance users and white youth had greater housing instability.	Foster Youth
Kirkpatrick & Tarasuk (2011)	Academic	Housing Instability	Sample: Nov 2005 - Jan 2007 respondents from 12 high-poverty census tracts in Toronto, Canada w/households with at least one child 18 or	Housing Stability = whether "family was in rent arrears and whether they'd borrowed money for rent/obtained rent money from other sources in the past 12 months"	Food Insecurity	Families in subsidized housing have lower odds of food insecurity than those on the waitlist for housing subsidies. Among families paying market rents, those paying a greater proportion of income in rent	Families

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
			younger, gross household income at/below “low-income” threshold adopted from Statistics Canada			had higher odds of food insecurity.	
Kushel et al. (2006)	Academic	Housing Instability	National Survey of America’s Families	Housing instability defined = “self-reported difficulty in paying rent, mortgage, or utility bills in the past year”	“Self-reported measures of past-year access: (1) not having a usual source of care, (2) postponing needed medical care, or (3) postponing medication; and past-year utilization: (1) not having an ambulatory care visit, (2) having emergency department (ED) visits, or (3) inpatient hospitalization”	Housing instability is associated with limited access to ambulatory care and greater usage of acute care.	Low-Income Adults
Liu et al. (2014)	Government	Housing Insecurity	2009 Behavioral Risk Factor Surveillance System	Housing Insecurity = self-reported as being stressed/worried ‘sometimes’ ‘usually’ or ‘always’ about having enough money to pay rent/mortgage	insufficient sleep or frequent mental distress	Frequent insufficient amounts of sleep is more likely to affect people experiencing housing insecurity than those that are not (37.7% vs 21.6) even after adjusting for covariates, including mental distress.	Adults
Los Angeles County of Public Health (2015)	Government	Housing Instability/Housing Affordability/Housing Quality	Los Angeles County Health Survey, American Community Survey	Housing affordability = in past 2 years unable to pay or delayed paying rent or mortgage. Housing stability= in past 5 years ever homeless or did not have own place to sleep or live. Housing quality= which describes current home: has mold or growth, has pests, built before 1978 with peeling or chipping paint, has heat or hot water when needed	Food Insecurity, Healthcare Affordability, Housing Quality, Physical and Mental Health, Homelessness and Housing Stability	People in L.A. experience high housing burden. Individuals experiencing housing unaffordability more likely to experience problems accessing healthcare. Adults with income <300% of federal poverty line who had unaffordable housing more likely to experience low and very low food insecurity. Adults experiencing housing unaffordability and housing instability more likely to report problems with physical and mental health. 100s of thousands of people in L.A. are exposed to poor quality housing that could put their health at risk.	Adults
Maqbool et al. (2015)	Foundation	Housing Affordability	Review of Literature	Authors look at high quality, stable, affordable housing	Pathways through which affordable housing influences health	When housing is affordable it could improve health-related outcomes by freeing up resources for other necessities (e.g., food, health), by lowering	Everyone

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
						stress and associated poor outcomes, by improving mental health, by lessening health concerns related to inferior housing quality, and by providing a useful place to deliver health services to the chronically ill.	
Martinez et al. (2000)	Academic	Housing Instability	Cook County Hospital data - review of medical records of all HIV infected adolescent/young-adult patients from Jan 1993 to May 1998	Housing Instability: if clinician noted that “patient had multiple residences over the period of treatment, had a history of being “kicked-out” of home, or had lived at any time during treatment in a shelter”	Medication non-adherence, appointment non-adherence	Housing instability has a significant association with youth’s non-adherence to HIV/AIDS drug regimens. In fact, housing instability was the most significant associated with nonadherence of all factors analyzed.	Adolescents with HIV/AIDS
Mayberry et al. (2014)	Academic	Housing Instability	Sample: “80 semi-structured in depth face-to-face interviews w/family caregivers identified in shelters in 4 states”	Housing Instability: Families recruited from homeless shelter and randomized into three housing treatments: program based transitional housing, rapid re-housing (time limited subsidy). A fourth group was assigned to usual care (free to access any service that they would ordinarily qualify for).	Effects of housing instability on family routines/schedules & health	Families experiencing housing instability, especially those in shelters and transitional housing programs, encountered challenges to their routines/rituals primarily due to rules regarding food and meals and discipline.	Families
Murphy et al. (2013)	Academic	Housing Instability	2010 National Alcohol Survey	Housing Instability was measured based on responses to the questions: “Have you or another member of your household been negatively affected by the recent economic downturn or recession? That is, since January 2008?” Respondents answering in the affirmative were then asked “Since January 2008, did you or anyone in your household (1) “have trouble paying rent or mortgage?” and (2) “lose their housing, either owned or rented?”	Alcohol Outcomes: alcohol dependence symptoms (7 domains), negative drinking consequences	Housing instability is associated with worse alcohol outcomes as measured by negative drinking consequences and alcohol dependence systems. However, this effect was moderated by perceived family support.	Adults
Nakazato et al. (2011)	Academic	Housing Satisfaction	German Socio-Economic Panel survey (N = 3,658)	11-point rating scale on housing satisfaction from 0	Life-satisfaction and housing satisfaction	Moving to/living in a better home (quality/space) is not related to higher satisfaction in	Adults

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
				(completely dissatisfied) to 10 (completely satisfied)		life because for two reasons. Firstly, housing makes only a small contribution to an individual's overall life-satisfaction and secondly, the positive effects of improved housing are undermined by other costs associated with housing.	
National Health Care for the Homeless Council (2013)	Non-profit	Housing Instability	Review of Current Literature	N/A	Review of Lit	US Census Bureau projects a doubling of the elderly population by 2050, thus a similar trend may be expected in homeless elderly. The main pathways into homelessness for elderly include: aging chronically homeless adults and elderly adults becoming homeless for the first time. Unstable housing is associated with emergency department use. "Health issues associated with housing instability include premature aging, alcohol use, and geriatric conditions."	Older Adults
Nemiroff et al. (2010)	Academic	Housing Stability/Homelessness	Sample: 85 women who were unaccompanied and 69 women with children	Housing stability defined as: 1. how much "...time a participant was housed at follow-up," and 2. housing status, which is a dichotomous variable indicating whether respondent is "housed" or "not housed." Based on the Ontario Government's definition of housing stability, "[p]articipants were considered housed if they had been in housing for 90 days or more at follow-up" (p. 10)	Housing Stability measured as the amount of time consecutively housed and housing status.	Access to public housing and family status, a variable indicating whether the women were accompanied by dependent children, are positively associated with housing status, while family status is the only predictive variable with a positive significant association with housing stability,	Homeless Women
North et al. (2010)	Academic	Housing Stability	Sample: 400 homeless people sampled from shelters/streets in St. Louis Missouri	Homelessness: defined as "having no current fixed address of one's own & having spent last 14 nights in public shelter or some other unsheltered location	Structured interviews regarding substance use and Urine testing	Cocaine use was detected in 55% of those tested. Most users in this study who continued using substances over the 2-year frame failed to achieve and/or maintain stable housing.	Local Homeless Population in St. Louis Missouri

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			(n=255) (NIDA-funded study)	without a personal mailing address, or on the streets”		While detected cocaine use in the 1 st year follow-up predicted housing patterns, alcohol abuse/dependence did not.	
Pavao et al. (2007)	Academic	Housing Instability	2003 California Women’s Health Survey	Housing Instability: Survey respondents who answered in the affirmative to being 30+ days late on rent/mortgage payments; not having their own housing; or not having access to safe, adequate, or affordable shelter in the last 12 months.	Health Status & Access to Care	After adjusting for other factors, women experiencing intimate partner violence had roughly 4 times the odds of housing instability compared to women who did not.	Women
Pearson et al. (2009)	Academic	Housing Instability	HUD data for Housing First Programs	Housing Instability: housing tenure, number of housing problems and temporary moves to other living arrangements over the year, number of changes in housing within program units.	Housing Stability of 3 (DESC, REACH, and Pathways to Housing) Housing First programs.	84% of individuals in Housing First program were still housed after 12 months. The participants most likely to leave were entering the Housing First program from homelessness. Programs offering a combination of services and housing, as well as flexibility in rules and housing issues had greatest housing stability.	Chronically Homeless
Phinney et al. (2007)	Academic	Housing Instability	Women’s Employment Survey	Housing Instability: Eviction from residence or homelessness between interview study times fall 1997-fall 2003	Eviction and Homelessness	Both low education (less than a high school education) and illicit drug use increase the odds of eviction and homelessness. However, other factors that predict homelessness are criminal conviction, mental and physical health problem, domestic violence, hard drug use, being black, and being aged 18-24.	Women
Rapaport Institute (2015)	Academic	Housing Insecurity	Boston Reentry Survey (122 men/women leaving state prison in Massachusetts)	Housing Insecurity: “living in temporary or marginal housing”	Housing insecurity	Of the individuals who had been out of prison for 6 months 35% resided in temporary or marginal housing. By the 12 th month out, that percentage had grown to 43%. The survey found that the demographic groups most commonly experiencing housing insecurity are: older men and individuals who have a history of mental illness or drug abuse.	Formerly Incarcerated

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Reid et al. (2008)	Academic	Housing Instability	Medical Expenditure Panel Survey, National Health Interview Survey, National Survey of America's Families, National Survey of Homeless Assistance Providers and Clients	Housing Instability = data from NSAF "adults with household incomes less than 200% of the poverty level who report housing instability", the formerly homeless (data from NSHAPC "adults who use services and report a history of homelessness") and the actively homeless (data from NSHAPC "adults who report being actively homeless")	Acute health care utilization & Access to healthcare in the past year: 1) having no usual source of care, 2) having no health insurance, 3) postponing needed medical care, and 4) postponing medications	Housing and economic instability are associated with worse access to care as measured by being insured, delaying needed care, and delaying medications, as well as higher acute care needs as measured by greater rates of hospitalization.	Adults
Rog & Buckner (2007)	Government	Housing Stability and Homelessness	Review of literature on risk factors/characteristics of homeless families and children	Residential Instability: "frequent moves, short stays in one's own housing, doubling up with relatives/friends"	N/A	Ethnicity (in particular, African Americans), resources, low levels of human capital, pregnancy, and other problems such as separations and domestic violence are factors that heighten a family's exposure to homelessness. Subsidies play a strong role in reducing and helping end homelessness.	Families
Rollins et al. (2012)	Academic	Housing Instability	SHARE study	Housing Instability = index of housing instability, count of 10 dichotomous measures related to tenure & finances -- risk factors include: moving more than twice in the last 6 months, self-reported not expecting to be able to stay at current housing in the next 6 months, self-report of not being able to pay for their housing in the current month	Health: PTSD, Depression, Quality of Life, Days off Work/School, Hospital Emergency Use	Abused women more likely to report systems of PTSD, depression, lower quality of life, more days off work/school, greater hospital emergency use	Women Exposed to Intimate Partner Violence
Rosenthal et al. (2007)	Academic	Housing Stability	Sample: Longitudinal Study of newly homeless adolescents in Los Angeles and Melbourne	Housing stability measured by: total number of moves, number of months spent at home, number of placements in institutional settings, and number of months until youth first returned home	Drug use, condom use, number of sexual partners	Melbourne youth had greater drug use than Los Angeles youth. Housing instability positively associated with drug, and youth that were placed in an institutional setting had greater condom use.	Homeless Adolescents
Rourke et al. (2012)	Academic	Housing Characteristics	Positive Spaces, Healthy Places study (n=602)	Housing stability: difficulty paying housing costs, receipt of rental assistance, number of times moved in past year	Physical and Mental Health Related Quality of Life variables.	Housing instability measured by difficulty paying housing costs, is negatively associated with physical and mental	HIV+ Adults

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				(2+ vs 1 or less), homeless or live in inadequate housing, Housing Satisfaction: dwelling features, neighborhood characteristics, meaning of dwelling and neighborhood, and proximity to services and facilities”		health, while mental health is also negatively associated with frequent moves and positively associated with housing satisfaction variables at baseline. Only difficulty paying for rent is negatively associated with changes in mental health.	
Shinn et al. (1998)	Academic	Housing Stability	Sample: 266 families requesting shelter and comparison group of 298 families from welfare caseload re-interviewed after 5 years	Housing stability: defined as “12 or more months at one’s own residence”	Shelter Request Housing Stability Receipt of Subsidized Housing	Receiving housing subsidies is the most important indicator of housing stability; subsidies increased a formerly unstably housed family’s likelihood of becoming stably housed. Significant predictors of subsidized housing are months in shelter and shelter type (i.e., assigned to a non-profit shelter with additional services). Domestic Violence victims have reduced odds of receiving housing subsidies.	Homeless Families
Stahre et al. (2015)	Government	Housing Insecurity	Washington State Behavioral Risk Surveillance System	Housing Insecurity = answered ‘always’ ‘usually’ or ‘sometimes’ to question “How often in the past 12 months would you say you were worried or stressed about having enough money to pay your rent/mortgage?”	Health risk factors such as poor or fair health, current smoker, past 30 days binge drinker, postponed doctor visits due to costs	Housing insecure individuals two times as likely to report poor or fair health, or postponing seeing the doctor due to costs.	Adults
Suglia et al. (2011)	Academic	Housing Instability	Fragile Families and Child Wellbeing study	Housing Instability = Mothers self-report of having moved 2+ times in the past 2 years; affirmative answer recorded as housing instability Housing quality = measured as housing disarray (noisy and crowded living arrangements) and housing deterioration (e.g., paint coming off of walls, holes in floor, etc.)	Mental Health - Composite International Diagnostic Interview - Short Form (CIDI-SF), generalized anxiety disorder (GAD)	Holding other factors constant, the authors find that housing instability and housing disarray are associated with increased odds of a diagnosis of depression and generalized anxiety.	Mothers
Surratt et al. (2015)	Academic	Housing Insecurity	Sample: 503 HIV positive adult substance users (heroin/cocaine use	Combined measure of food and housing insecurity: Affirmative answer to “In the 3 months prior to the	ACTG instrument for ARV adherence	food and housing insecurity associated with reduced ARV adherence.	HIV+ Adult Substance Users

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			12+ times in prior 3 months) Interviewed	interview did you go without food, housing or other necessities because you did not have the money”			
Thurston et al. (2013)	Academic	Housing Security	2005-6 37 English speaking immigrant women in 3 Canadian cities interviewed who had fled domestic violence (longitudinal - qualitative open-ended interviews at 3 month intervals)	Housing Insecurity = defined as continuum that takes into consideration “a woman’s sense of safety for herself and her children” (p. 281) as well as accessibility of services.	Study aimed to understand experiences with domestic violence, housing insecurity, and homelessness	Housing insecurity impacted by: “affordable housing and living conditions; socio-economic factors and employment; the role of service providers and advocates; health impacts; personal safety issues; and the influence of gender and culture on housing” (p. 290). This may be caused by barriers such as (language, job skills, transportation, etc.) which hinder the attainment of adequate employment.	Abused Immigrant Women
Topp et al. (2012)	Academic	Housing Instability	Australian Needle and Syringe Program Survey	Housing Instability categorized as primary homelessness (“sleeping rough” or in impoverished dwellings like a car, or in Australian NW “staying in the long grass”), secondary homelessness (“staying with friends and relatives or in specialist homelessness services”), and tertiary homelessness (“living short/long term in boarding houses, hostels, or caravan parks w/o secure lease and no private facilities”) (p.702)	Housing Stability	Housing instability positively associated with recent public injecting, prior incarceration, sharing ancillary injecting equipment, being indigenous, and acquiring syringes through personal contacts in the prior month. Housing instability is less negatively associated with being female and age.	Adult Substance Users
Vega & Wallace (2016)	Academic	Housing Affordability	American Community Survey, 2013	Discussed housing affordability as measured by spending more than 30% of income on housing.	N/A	Housing costs and health care costs are a major contributor to economic struggles for low-income older adults in CA. 19 states had majority of renters aged 50+ paying more than the 30% of income standard for housing. Authors suggest increasing affordable housing through supply side (e.g., increasing amount of affordable units through financing and zoning) and	Older Adults

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
						demand side (e.g., housing vouchers) policies.	
Vijayaraghavan et al. (2011)	Academic	Housing Instability	Immigration, Culture and Health Care Study	Housing Instability measure of 5 categories listed from most to least stable: owing home, living with family, renting home, renting a room, and lacking a usual place to live (including living in a shelter and being homeless).	Diabetes self-efficacy	Housing insecurity (lacking usual place to live) associated with lower diabetes self-efficacy, but this effect is mediated by food insecurity.	Adults with Diabetes
Ziol-Guest & McKenna (2014)	Academic	Housing Instability	Fragile Families and Child Wellbeing Study	Housing Instability = mother moved a minimum of 3 occasions over the child's lifetime.	Language and literacy and behavior problems	Housing instability does not impact language and literacy readiness; but it is positively associated with attention problems, and both internalizing and externalizing behavior, but only among poor children.	Children (at age 5)
<i>Homelessness:</i>							
Allgood & Warren (2003)	Academic	Homelessness	National Survey of Assistance Providers and Clients (NSHAPC) (n=2,920)	Number of days of current or most recent spell of homelessness	Duration of homelessness	The duration of homelessness is higher for older men, for individuals with histories of incarceration or alcohol and drug abuse, and for never-married individuals,	Homeless Adults
Aubry et al. (2012)	Academic	Homelessness	Sample: longitudinal study of 2 (2-year apart) interviews between Oct. 2002-2005 (n=329)	Homelessness: defined as "situation in which an individual has no housing of his/her own and is staying in a temporary form of shelter"	Housed 90 days or more at follow up; # of days housed at follow up; # of moves/year	4 classes of homeless identified: 28.6% were in Class 1 (high functioning), 27.1% in class 2 (substance abuse problems), 22.6% in class 3 (mental health and substance abuse), and 21.6% in class 4 (complex psychical and mental problems). Housing trajectories largely similar between classes, however, class 3 had significantly greater proportion housed for 90 days or longer, and had significantly greater number of days housed when compared to class 2. Class 2 individuals also had significantly greater number of moves than class 4.	Homeless Adults
Bassuk et al. (1997)	Academic	Homelessness	Worcester Family Research Project (WFRP) Study:	Homelessness: mothers living in an emergency shelter, transitional housing,	Homeless	Childhood predictors of adult homelessness included placement in foster care and	Homeless Mothers

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
			homeless mothers (n=220) with low-income housed mothers (n=216) as comparison group	or welfare hotels for at least 7 days		having a drug-using, female primary care-provider. Adult risk factors included “minority status, recent eviction, frequent alcohol/heroin use, and recent mental health hospitalization,” among others. Protective factors include being a “primary tenant, having received AFDC and/or a housing subsidy in the prior year, having a large number of people in the social network, and having graduated from high school.”	
Bassuk et al. (2001)	Academic	Homelessness	WFRP Study: homeless mothers (n=220) with low-income housed mothers (n=216) as comparison group	Homelessness: defined as “Sleeping in shelters, abandoned buildings, bus and train stations, etc.” (Link et al 1994)	-Duration of homelessness (sum of duration of each homeless spell) -Time to becoming rehoused (prospective) -Dichotomous variable equal to 1 if multiple homeless episodes and 0 if not	Median shelter length increased based on number of times previously homeless: one time 11.2 weeks; twice was 16.7 weeks, while three or more was 138.6 weeks. Multiply homeless mothers had significantly longer shelter stays than first time homeless mothers (29 weeks versus 16 weeks, respectively). Women experiencing multiple homeless episodes had higher rates of “had higher rates of childhood sexual abuse, stranger violence during adulthood, and lifetime occurrences of major depression and substance abuse than their first-time counterparts,” and are more likely to experience partner violence when rehoused (p. 313).	Homeless Mothers
Bebout et al. (1997)	Academic	Homelessness	Sample: 158 participants in the Washington D.C., dual diagnosis project interviewed at 6, 12, 18month follow-up (n=122)	Housing Stability: three categories – “persons who consistently lived with family members, those housed in independent apartments, and persons living in dependent settings with on-site staffing”	Housing status, substance abuse/progress towards recovery, residential history, psychiatric symptoms, quality of life	52% of sample achieved stable housing. Stable housing correlated with lower substance use, advancing in recovery, and greater quality of life. Substance abuse/progress to recovery mediates housing stability.	Homeless Adults with severe mental illness and substance use disorder

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				Unstable Housing: "persons residing in institutional settings at 18 months...those who experienced literal homelessness between 12 and 18 months, and persons who were unstably housed – that is those living in inadequate settings or those who had negatively coded moves – even though they avoided returns to homelessness during the final period" (p.938).			
Brueckner et al. (2011)	Academic	Homelessness	Sample: (N = 19) young people moving from temporary to permanent housing	Secondary homelessness: lacked security of tenure	Experiences of young people transitioning to permanent accommodation/independent living	Young people eager to attain independent accommodation, but found themselves outside dominant discourse of home occupancy - which affects their experiences of home/social belonging	Young Adults in Western Australia
Burt (1991)	Academic	Homelessness	Multiple data sets used on 182 cities over 100k in population	Homelessness: Counts of shelter beds.	Homelessness rate: number of shelter beds in the city divided by the city population (in 10,000s)	The rate of homelessness increased from 1981-1989 from 5 per 10,000 individuals to 15 per 10,000. Factors causing this included "general assistance, household resources and employment structure" among others. The authors recommend that short-term policies should be directed at protecting poor/near-poor from effects of depressed economies.	Adults
Caton et al. (2005)	Academic	Homelessness	Sample: interviewed 377 participants upon shelter entry at 6, 12, and 18 months	Homelessness: entrance into a shelter	Duration of homelessness	81% of participants returned to community housing in follow-up - median homelessness duration was 190 days. A shorter length of time spent homeless correlated with an individual of "younger age, current or recent employment, earned income, good coping skills, adequate family support, absence of substance abuse treatment history, absence of arrest history" (p. 1753). An older age group and a history	Homeless Adults

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
						of incarceration were the strongest predictors.	
Cobb-Clark et al. (2015)	Academic	Homelessness	Journeys Home: A Longitudinal Study of the Factors Affecting Housing Stability	Authors use multiple definitions of homelessness (cultural and narrow). Cultural – “anyone not living in their own home or that of a relative as renters or owners.” Narrow – “those sleeping on the streets, squatting, or staying in emergency/crisis accommodation.”	Homelessness	The rates of exits out of homelessness decrease as age of individuals and the education level of mothers increases.	Homeless Adults
Cook-Craig & Koehly (2011)	Academic	Homelessness	Sample: 28 homeless families (longitudinal study)	Homelessness: entrance into a shelter	Social support network (number/proportion/stability of supportive ties), housing status and financial well-being	Households who stayed in a homeless shelter for a greater period had a 1.465 times higher likelihood of leaving it with their own residence.	Families
Curtis et al. (2013)	Academic	Homelessness and At Risk of Homelessness	Fragile Families and Child Wellbeing study	Homelessness = traditional & HEARTH ACT definition At risk of homelessness	Homelessness = traditional & HEARTH act measure. At-Risk = multiple moves/eviction, doubling up/not paying rent,	Life shocks have positive but weak effects on evictions or multiple moves, and no aggregate effects on doubling up or not paying rent	Families
Dornbusch (1994)	Academic	Homelessness	Stanford Studies of Homeless Families, Children and Youth, Peter Rossi’s survey, and Sample: interviewed 1 parent in each of 97 formerly homeless families	N/A	Transitions into/out of homelessness	Homeless children received less medical care than poor, housed children :“8% had untreated medical problems compared to 6% of formerly homeless children & 4% of children in at-risk families”(p. 408). Formerly homeless families say they were helped most by an “increase in income, support from family and friends, and access to affordable housing” (409). The greater the availability of resources, the higher the proportion of homeless families that are helped.	Families
Early (2005)	Academic	Homelessness	1996 National Survey of Homeless Assistance Providers and Clients	Whether household is in housing or homeless, whether household enters shelter system	Whether household is in housing or homeless, whether household enters shelter system	Households with children have a higher probability of being homeless when head of household has substance abuse/alcohol problems, in areas with high rent, and households with younger heads of households.	Families

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Glomm & John (2002)	Academic	Homelessness	N/A	Homelessness: "h in the utility function equals 0 when an individual is homeless"	Future labor productivity	Homelessness reduces future labor market prospects. Housing as an investment good is hindered by borrowing constraints. Borrowing constraints and productivity loss generate a homelessness trap.	Adults
Gould & Williams (2010)	Academic	Homelessness	Missouri Association for Social Welfare - MASW censuses (1993, 1994, 1996, 1998, 2001)	Homelessness: defined as entering shelter	"The number of individuals in family units in emergency shelters" (p. 179)	Unemployment rate is related to number of homeless people in Missouri emergency shelters. Fair market rents and tables are not significantly related and not related to number of homeless people, respectively. Population growth rate not related to homeless population. The more bed spaces available, the more families there are to fill them (shows overcrowded shelters)	Families
Herman et al. (1997)	Academic	Homelessness	Sample: 92 US household members that'd been previously homeless & comparison 395 individuals with no prior homelessness	Homelessness: "having had to sleep overnight in a shelter, abandoned building, vehicle, or out in the open because respondent did not have a place to live" (p. 250)	Adult Homelessness	Inadequate or lacking parental care during childhood (OR=13) and physical abuse (O=16) increases the likelihood of homelessness. Sexual abuse does not significantly increase the likelihood of homeless (OR=1.76). However, a combination of neglect and either type of abuse increases the likelihood of homelessness (OR=26), when compared to individuals reporting no abuse or neglect.	Children
Hodgson et al. (2013)	Academic	Homelessness	Review of published research examining prevalence of psychiatric problems among young homeless people (46 articles)	Homelessness: defined as "without suitable or permanent accommodation"	Prevalence of psychiatric disorders	All studies using full psychiatric assessment reported prevalence of any psychiatric disorder from 48-98%	Young Adults
Koegel et al. (1995)	Academic	Homelessness	Course of Homelessness study	Homelessness: "at some point in past 30 days participant had spent at least 1 night in (1) a temporary shelter, a place not designed for shelter, excluding those	Negative childhood experiences such as childhood living arrangements, family socioeconomic status, childhood poverty-related	Almost half reported living apart from parents (natural or adopted), 25 % of sample experienced placement in foster care, institutional settings or both. Two fifths indicated	Homeless Adults

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				who double up or (2) a program for homeless individuals that defines stays as temporary” (p. 1643)	housing experiences, other forms of housing stress, homelessness on own as child, indicators of family trouble (e.g., physical or sexual abuse), any problem indicator, etc.	experiencing issues with housing as children (i.e., 13% on subsidized/public housing, 17% doubled up, 3% family homelessness, 17% reported running away homeless, and 5% experienced eviction).	
McVicar et al. (2015)	Academic	Homelessness	Journeys Home (JH): Longitudinal Study of Factors Affecting Housing Stability	Homelessness: defines three levels of homelessness: primary, secondary, and tertiary. Primary “... is defined here as sleeping rough or squatting in abandoned buildings” (p. 90); secondary homelessness is essentially doubling up; and tertiary “... is defined as staying in a caravan, boarding house, hotel or crisis accommodation Homelessness” (p. 91).	Homelessness and substance abuse	Homeless individuals are more likely to be substance users & substance users are more likely to be homeless. Controlling for personal characteristics, homelessness does not affect substance use, although it is possible that alcohol use increases the probability of an individual becoming homeless. There is heterogeneity among the homeless by type of homeless.	Adults
Orwin et al. (2005)	Academic	Homelessness	Chicago Target Cities sample	Homelessness: defined as “literal and marginal homelessness”	Homelessness	Homelessness was reduced by 43% over 3 years. A primary predictor of homelessness is crack use - which appears a risk factor for becoming/remaining homeless. Whether or not others were dependent on the participant for food/shelter appears to be a protective factor for achieving housing/preventing homelessness.	Homeless Adults
Piliavan et al. (1996)	Academic	Homelessness	Sample: Longitudinal study of homeless individuals in Minneapolis, MN	Exit from Homeless: defined as leaving the streets for conventional housing (e.g., apartment, hotel, etc.). In order to be considered housed, the respondents had to be in a conventional housing arrangement for at least 30 days. The authors distinguish between independent (own housing) and dependent (living with family or friends) exits.	Hazard Rate for leaving homelessness	The hazard rate decreased as the time an individual spent homeless increased. Variables that significantly impacted the hazard rate for exiting into an independent living situation are work history, race, having things in common with other homeless individuals, gender (mediated by welfare receipt), length of current homeless spell, and prior homeless experience. Majority of individuals housed returned to	Homeless Adults

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						homelessness, but hazard rate declined with length of time housed. The return to homelessness was significantly impacted by gender (men less likely to return than women) and work history (those with longer work histories were less likely to return to homelessness). Hazard rate did not significantly vary by type of transition (i.e., independent vs. dependent)	
Quigley & Raphael (2001)	Academic	Homelessness	All systematic information on homelessness in the US: census counts, shelter bed counts, records of transfer payments, and administrative agency estimates	Homelessness	Census counts of homelessness, shelter bed counts, official homeless estimates for 50 California counties (for single and families), and California administrative data on families qualifying for permanent and temporary assistance.	Market factors are the driving force behind increases in homelessness over the study period, not deinstitutionalization of the mental institutions. Rental vacancies and housing affordability significantly impact homelessness. Small improvements in the affordability and availability of lower-quality rental housing can significantly reduce homelessness rates in the US.	Homeless
Shelton et al (2009)	Academic	Homelessness	National Longitudinal Study of Adolescent Health (Add Health)	Homelessness: inclusion based on affirmative responses to “having been homeless for a week or longer, ever staying in a homeless shelter, ever not having a regular residence to sleep”	Ever Homeless	4.6% of respondents classified as ever being homeless. Several factors were associated to experiencing homelessness that were related to childhood disadvantage (i.e., parental-caregiver neglect, ordered out of parents’ home, having ever ran away, paternal incarceration, being adopted, spending time in foster care, welfare receipt before age 18). Moreover, current economic troubles, mental health and drug problems were also significantly linked to experiencing homelessness.	Adolescents
Toro et al. (1997)	Academic	Homelessness	Sample: case management intervention evaluated 202 cases	Homelessness: Days homeless in the previous 6 months	Days homeless, housing quality, total dollar income, physical and psychological	The housing quality of the experimental treatment group, participating in the Demonstration Employment	Homeless Adults

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
			(213 adults & 70 children) interviewed at 6, 12, 18 month follow-ups	Housing Quality index based on places lived in the previous six months that took into consideration: “comfort, safety, spaciousness, privacy, friendliness, and overall quality” (p. 479)	health, self-efficacy, social support	Project—Training and Housing (DEPTH), improved over the follow-up period relative to that of the controls. The treated also improved on measures of stressful life events and interviewer ratings of psychopathology relative to the treatment group.	
Tsemberis et al. (2007)	Academic	Homelessness and Residential Stability	Collaborative Program to Prevent Homelessness (CPPH) study	Literal Homelessness: “defined as not having a regular place of residence and living in a homeless shelter, temporarily in an institution, or living in a place not ordinarily used as a sleeping arrangement” Functional homelessness is literal homeless with bouts of institutionalization. Residential Stability defined as living in : “own SRO room, supportive SRO, own apartment or house, parent/guardian’s apartment or house (long-term), other family member’s apartment or house (long-term), someone else’s apartment or house (long-term), boarding house or board-and-care, transitional housing program (long-term), and group home” (p. 34)	Literal homelessness, functional homelessness, and time in stable housing constructed from the Residential Time-Line Follow-Back (TLFB) Inventory.	Residential TLFB Inventory found to be a reliable and valid method for determining the key outcome measures.	Homeless Adults
Zlotnick et al. (1999)	Academic	Homelessness	Study of Alameda County Homeless Residents Project (STAR)	Exit from Homelessness (defined as sleeping on the street, vehicle, abandoned building, or other place not meant for human habitation) and Stable Housing: Remaining housed at first exit location throughout the follow-up period	Residential exits, economic resources, demographic variables, disability, human capital, disaffiliation, and cultural identification	Most individuals in the sample were able to obtain a residence out of homelessness within 3 months but few maintained housing by the 15-month follow-up. Conditions significantly influencing exit into stable housing are consistent receipt of entitlement-benefit income, subsidized housing, being homeless for less than one	Homeless Adults

Author(s)	Publication Outlet	Term Used	Data Set	Measure of Housing Insecurity	Outcome Measure(s)	Findings	Study Population
						year. Women, those with substance use disorders, and those that exited into government subsidized housing are more likely to go into unstable housing, while those involved in informal sector activities over the all 3 waves of the study period and homeless for a year or more are less likely to exit into unstable housing.	