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# Housing Assistance and Disconnection from Welfare and Work: Assessing the Impacts of Public Housing and Tenant-based Rental Subsidies

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*The well-being of families disconnected from welfare and work are of growing concern to policymakers. This article examines the relationship between economic disconnection and housing assistance, a critical source of support that subsidizes what is the largest fixed expense for most households. Results from multilevel logistic models show that the odds of being disconnected are higher for public housing residents and lower for single mothers receiving tenant-based rental assistance in comparison to those in private housing. Findings indicate that housing policies should be considered alongside welfare policy changes aimed at economically disconnected families, and that public housing is a critical site for interventions.*

*Key words: economically disconnected families, housing policy, public housing, Temporary Assistance for Needy Families*

Recent changes in the structure of public assistance programs have benefited some groups, but left others without consistent support. The number of low-income mothers receiving neither employment earnings nor public cash assistance, a situation also known as being economically disconnected, is growing (Blank & Kovak, 2008; Loprest & Zedlewski, 2006).

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In addition to no or very low incomes, economically disconnected women are likely to experience barriers such as learning disabilities, physical limitations, and drug use (Turner, Danzinger, & Seefeldt, 2006). Such barriers hinder women's abilities to find work as well as to negotiate the bureaucracies of receiving public assistance. Research on how disconnected women support themselves indicates that they receive cash and in-kind support from public, familial, and community sources, but much of the assistance is sporadic at best (Ovwigbo, Kolupanowich, Hetling, & Born, 2011). Thus, government housing assistance, through both public housing residence and tenant-based housing assistance, is a potentially important support for these families.

Providing decent and affordable housing is a top priority for policymakers developing supports for poor families, and understanding the impact of housing programs on the outcomes of low-income families will lead to better-designed programs and policies. Housing status can serve as a critical platform to reach vulnerable low-income families, and these programs should be tailored to the type of housing assistance received, as the two types are very different. Public housing is defined as project-based housing owned and managed by a local housing authority. In contrast, tenant-based rental subsidies, commonly known as vouchers, provide portable assistance to households living in private rental housing. However, no research has systematically explored whether the type of housing assistance—public housing or tenant-based housing assistance—is relevant to disconnection or related to the likelihood of being disconnected from both work and public assistance. Research is also lacking on whether or not state Temporary Assistance for Needy Families (TANF) rules that are related to housing assistance influence disconnection.

This article examines three related research questions in order to understand how federal housing assistance is related to disconnection among single mothers. First, what is the association between housing assistance type and disconnection without controlling for personal characteristics? Because policymakers can use housing as a site for intervention and are unable to control for demographic characteristics of individuals when designing their interventions, we examine the

relationship between each type of assistance and disconnection with housing type as the only independent variable. Second, how are public housing residence and receipt of tenant-based rental assistance each associated with being disconnected, controlling for other personal characteristics? We hypothesize that the different structures and neighborhood characteristics of the two programs may lead to different outcomes in terms of disconnection, even after controlling for demographic differences. For example, perhaps the lower housing burdens and higher poverty neighborhoods faced by public housing residents lead to a higher likelihood of being disconnected. And, third, do state welfare rules related to the treatment of housing assistance receipt affect the likelihood of being disconnected?

## Background

### *Prevalence and Personal Circumstances of Disconnected Single Mothers*

The issue of disconnection from work and welfare has attracted scholarly and policy interest. Disconnected single mothers make up a large and growing portion of families in poverty and former welfare recipients (Acs & Loprest, 2004; Blank & Kovak, 2008; Loprest & Nichols, 2011; Loprest & Zedlewski, 2006). Although studies use different time periods, data sources, and definitions, estimates indicate that approximately a fifth to a quarter of low-income single women are without work and welfare at a particular point. Disconnected single mothers face multiple circumstances that hinder their ability to find stable, formal employment (Turner et al., 2006). Studies of welfare leavers who are not employed and have not recidivated indicate that disconnected leavers are more likely to have health problems and limited work experience and lack a high school diploma (Acs & Loprest, 2004; Wood & Rangarajan, 2003). These barriers make negotiating the application process more difficult (Brodkin, 2006) and may lead to decisions to not apply for welfare regardless of eligibility and need. Economically disconnected parents involved with the Washington state child welfare system reported needing more help in accessing medical services and applying for financial benefits than other child welfare-involved parents (Marcenko, Hook, Romich, & Lee, 2012).

Research examining how disconnected families support themselves provides mixed results. A majority of disconnected women continue to receive food stamp and Medicaid benefits (Blank & Kovak, 2008; Turner et al., 2006), although recent work by Loprest and Nichols (2011) suggests that receipt rates are relatively low, perhaps as a result of stigma, preference, or barriers to access. Strict welfare rules influence the likelihood of disconnection (Hetling, 2011; Moore, Wood, & Rangarajan, 2012) and likely add to the low uptake of other public benefits. Studies of welfare leavers indicate that some have gone on to the Supplemental Security Income (SSI) rolls or have children who are receiving SSI benefits (Acs & Loprest, 2004; Wood & Rangarajan, 2003). A minority, less than one-fourth, receives child support (Wood & Rangarajan, 2003). Income from other household members, usually either a parent or an unrelated male, is another source of support, but often other adult household members are disabled or also disconnected (Blank, 2007). Government housing assistance is a potentially critical support, as tenant rent and utility payments are capped at 30 percent of income, but the extent of this receipt among disconnected women is not fully known. One state level report found that only one-fifth of chronically disconnected leavers, those without TANF or earnings for a full five years after their welfare exit, received any type of housing subsidy or assistance (Ovwigho et al., 2011).

### *Housing Assistance and Welfare Receipt*

Substantial overlap exists between the populations eligible for TANF and those eligible for housing assistance. In 2008, 10 percent of U.S. public housing households and 11 percent of Housing Choice Voucher holders, popularly referred to as "Section 8," received a majority of their income from "welfare" (defined as TANF, General Assistance, or Public Assistance) (HUD, 2008a). In 2002, approximately 30 percent of families receiving TANF also received some form of federal housing assistance (Sard & Waller, 2002). Almost all TANF recipients are eligible for housing assistance, but demand far outstrips supply.

Researchers considering how women manage after leaving TANF have noted the importance of housing assistance to survival strategies. Lein and Schexnayder's (2007) interviews

of Texans who had recently left TANF found that housing problems affected respondents' abilities to secure and maintain employment, and that 40 percent had lived doubled-up with family or friends in the previous six months. Hunter and Santhiveeran (2005) extracted data from the National Survey of America's Families on families exiting TANF in 1997 and found that 37.7 percent of welfare leavers were unable to pay rent or utility bills. Loprest (2001) used the same source for families exiting TANF between 1995 and 1997, and between 1997 and 1999, and found that 39 percent of leavers in the first wave and 46 percent of leavers in the second wave were unable to pay mortgage, rent, and utility bills in the previous year. A 2008 report on the impact of time limits found that families reaching their federal 60-month time limit were more likely than others to be residents of public housing or receiving rental subsidies (Farrell, Rich, Turner, Seith, & Bloom, 2008). Studies of families leaving welfare have noted their clear reliance on housing assistance. Nagle (2003) noted that half of all Massachusetts households leaving welfare received some form of housing assistance. Nearly one-quarter of welfare leavers in Cuyahoga County, Ohio received housing assistance (Coulton et al., 2001), as did nearly one-fifth of those in two California counties (Mancuso, Lieberman, Lindler, & Moses, 2001).

Despite this evidence supporting differences in housing experiences between welfare leavers and welfare recipients, Loprest and Nichols (2011) found similar housing assistance receipt rates when looking at disconnected women in comparison to other low-income women. In 2008, 20.3% of all low-income single mothers and 20.8% of all disconnected mothers received public housing or housing subsidies (Loprest & Nichols, 2011). It is possible that the differences in housing difficulties and benefit receipt between welfare recipients and leavers in the above studies are because the studies do not distinguish between receipt of public housing and tenant-based housing subsidies. The qualitative and self-report data may be capturing only public housing residents and not voucher recipients, as sample respondents may more easily identify residence in public housing as housing assistance. It is thus particularly important to examine housing assistance types separately when considering the link to disconnection.

It is also possible that the differences in housing experiences

and usage between welfare recipients and welfare leavers are due to state welfare rules in regards to housing assistance. The passage of the Personal Responsibility and Work Opportunity Reconciliation Act in 1996 gave states substantial leeway in designing their program rules. This flexibility has resulted in differences among states, including rules related to how housing assistance is counted in both eligibility for TANF receipt and the determination of grant amounts. Based on author tabulations using the Urban Institute's Welfare Rules Database, from 2001 to 2007, a little more than one-quarter of the states (13 or 14 states) varied TANF grant amounts based on whether or not the household lived in public or subsidized housing. Between four and five states during this period counted some portion of housing assistance as unearned income in determining eligibility and benefits. And, in any given year during this period, one or two states followed both rules. A housing assistance recipient in a state following either or both of these rules would receive a smaller TANF grant or perhaps not qualify for a grant at all compared to another recipient in a different state, all else equal. Although we are unaware of previous studies examining the impact of these particular state rules on individual receipt, it seems logical that the rates of welfare receipt among housing assistance recipients may vary among states by the way in which the rules consider or do not consider housing assistance.

### *Housing Assistance, Welfare Receipt, and Employment*

Researchers examining the nexus between welfare reform and publicly-assisted housing have focused, for the most part, on the effect that housing assistance might have on welfare recipients' abilities to secure employment and increase their incomes while reducing their reliance on public assistance. They have sought to understand whether housing assistance serves as an incentive or a disincentive to work, and their findings are relevant to our question on the impact of housing on disconnection. Findings on the short-term effects of housing assistance on employment have been inconclusive, and again have tended not to distinguish between types of housing assistance. Newman (2008) reviewed studies considering the effects of housing assistance on welfare recipients' success in securing employment. All of the studies reviewed (Bania,

Coulton, & Leete, 2001; Harkness & Newman, 2006; Lee, Beecroft, Khadduri, & Patterson, 2003; Mancuso et al., 2001; Nagle, 2003; Susin, 2005; Van Ryzin, Kaestner, & Main, 2003; Verma & Hendra, 2003; Verma, Riccio, & Azurdia, 2003; Zedlewski, 2002) show no marked differences between households affected by welfare reform receiving housing assistance and those without it: housing assistance “did not have a muting effect on the stronger incentives to work embodied in welfare reform” (Newman, 2008, p. 909). Shroder's (2002) earlier review of the literature found no persuasive association between housing assistance and employment effects, when considering studies investigating welfare recipients, welfare leavers, and low income families.

### *Types of Housing Assistance and Outcomes*

Although many of the studies on housing assistance and welfare receipt group public housing, housing vouchers, and private assisted housing together, a number of studies look only at housing vouchers, as they often are explicitly intended to support moves to higher-income communities and thus presumably to jobs. Newman, Holupka, and Harkness (2009) found that women receiving housing assistance had higher rates of welfare participation than those who did not, and that differences in employment rates and earnings between women in assisted housing and those not receiving assistance were rarely significant. Olsen, Tyler, King, & Carrillo (2005) found that all types of housing assistance had disincentives on market work, and that the disincentive effects were slightly smaller for recipients of tenant-based housing vouchers as compared to other types of housing assistance. Related research studies, using randomized experimental designs, have focused on the effect of housing voucher receipt on labor supply decisions, with ultimately inconclusive findings (Jacob & Ludwig, 2012; Mills et al., 2006; Sanbonmatsu et al., 2011).

Other research indicates that voucher recipients may be located in physical and social communities that offer more supports than those available to public housing residents. Although the effectiveness of Section 8 vouchers as an employment program has not been determined (Levy, 2010), many agree that voucher recipients live in communities with lower poverty rates and fewer racial minorities than public



housing residents do (Devine, Gray, Rubin, & Taghavi, 2003; Newman & Schnare, 1997). Voucher recipients in the Moving To Opportunity (MTO) demonstration tended to move to lower-poverty neighborhoods at least initially, and these moves were made by recipients of both types of vouchers—those restricted to lower-poverty Census tracts and supported with mobility counseling, as well as those with no such restrictions (Sanbonmatsu et al., 2011). When MTO participants moved to communities with supportive networks, they reported that they felt transformed, in large part due to their feeling of increased safety and security (De Souza Briggs, Popkin, & Goering, 2010).

There also are important structural differences between the two housing programs. Low-income families in public housing have lower housing burdens than those who are voucher holders in most states, because there is less regulatory and administrative flexibility in the public housing program and voucher recipients often can choose to pay more in rent (HUD, 2008b). Approximately 38 percent of voucher holders pay more than 31 percent of their income towards rent (McClure, 2005). Accordingly, with a lower housing burden that is wholly dependent on her income from declared earnings and public benefits, a single mother living in public housing would be more likely to be able to make ends meet without formal income than a woman with a rental subsidy, who might have agreed to a rent that is greater than 30 percent of her formal income. Moreover, almost one-quarter of Section 8 voucher holders stay in their current homes when they qualify for the program (Finkel & Buron, 2001); besides the very substantial difference of a lowered rent burden, therefore, these voucher holders' circumstances are exactly the same as they were before they received Section 8.

The research on Section 8 housing vouchers thus suggests the vouchers serve as a disincentive to employment when comparing recipients to those living in unassisted housing. The likelihood of employment for voucher recipients, however, may be slightly higher than for public housing residents (Mills et al., 2006; Olsen et al., 2005) although there are some conflicting findings on this point. It is also possible that the stronger community and neighborhood characteristics of voucher

recipients will positively influence individual employment outcomes over a longer period of time. Combined with the evidence that voucher recipients are more likely to receive welfare assistance, and that public housing residents have lower rent burdens, the research supports our hypothesis that voucher recipients will experience lower rates of disconnection from both employment and welfare, and motivates our inquiry into the differences in disconnection between public housing residents and voucher recipients.

## Methods

### *Sample and Data Sources*

The study's sample comes from the 2001 and 2004 panels of the Survey of Income and Program Participation (SIPP) and includes single mothers residing in low-income households. Sample criteria and study variables were taken from the month immediately preceding the interview month of each wave because of the seam bias identified by other researchers (Grogger, 2004). Members of the study universe were restricted to female survey respondents who were at least 18 and no older than 54 years old in the first wave of the panel. Wave observations of sample members were included in the dataset for waves in which the woman was identified as the mother of at least one child, reported being divorced, separated, never married, or widowed, and whose total household income was below 200 percent of the poverty line. This income criterion captures a group of women who fall under a traditional definition of low-income.

The purpose of the SIPP is to provide a comprehensive picture of income and program participation among U.S. residents and was designed to allow for evaluations of public programs. The central focus of the data is economic and demographic, with substantial detail on income sources and amounts, employment, public assistance participation, family composition, and residential location. The SIPP interviews members every four months and collects monthly data on income sources. The 2001 panel spans 36 months with 9 waves. The 2004 panel spans 48 months with 12 waves. One limitation of the data for this project is that state identification in the

2001 panel is limited to 45 states and the District of Columbia. The remaining five states are combined into two variables; Vermont and Maine are combined, and North Dakota, South Dakota, Wyoming are combined. Because state welfare policies differ among North Dakota, South Dakota, and Wyoming and between Vermont and Maine, sample members residing in these states during 2001, 2002 and 2003 were dropped from the final model.

The combination of the 2001 and 2004 panels of the SIPP is ideal for examining the research questions as well as informing policy discussions around how to best assist at-risk families during an economic recession. The 2001 panel is the most recent completed panel post-welfare reform that covers an economic recession as well as a recovery period for comparison purposes. The combination of the 2001 panel with the 2004 panel extends the study time period until 2007 and includes a stable period of economic growth and a policy period with more stable state TANF rules.

State-level data come from two sources, the Urban Institute's Welfare Rules Database (WRD) and the United States Bureau of Labor Statistics (BLS). The WRD is a longitudinal database of state-specific TANF rules maintained by the Urban Institute and funded by the U.S. Department of Health and Human Services Administration for Children and Families and Assistant Secretary for Program Evaluation. The database contains information on implemented TANF rules for all 50 states and DC as coded from state caseworker manuals and updates. The BLS data were used to obtain state unemployment rates.

### *Models*

Multilevel, mixed effects logistic regression was used to examine the influence of variables at the individual-wave level, the person level, and state level. In multilevel modeling, the technique is designed to examine effects at multiple levels, including time observations within an individual case. The current analyses use Maximum Likelihood estimations to produce efficient estimates (Hox, 2002; Luke, 2004). In this case, the model robustly examines the relative importance of state and individual time-varying and time-constant levels. Observations are based on person-interview month cases, in

which each individual contributes cases based on the number of interviews she or he completed and which meet the above described sample criteria. Thus, the dataset is of a hierarchical nature with repeated wave observations over the course of the panel (level 1) nested within individuals (level 2) that are in turn nested within states (level 3). Previous methods of combining variables at different levels have been shown to produce standard errors that are biased downward because often the errors across micro units with the same macro group are not random (Moulton, 1990). The advantages of a multilevel model are also apparent at the person level since multilevel modeling is able to handle longitudinal data with missing or uneven time points. Models were estimated using the `xtmlogit` command in Stata 12. Logistic regression models were based on the following basic framework:

$$\text{Disconnected (D) [Logistic regression]} = \beta_0 + \beta_1 I_i + \beta_2 S_i + \beta_3 Y_i + \varepsilon_i$$

Where:

D = a dichotomous variable indicating whether a women is disconnected,

I = a vector of individual-level characteristics,

S = a vector of variables that specify the state TANF rules and the unemployment rate,

Y = year dummy variables to control for changes in unobserved trends over time.

The dependent variable is whether or not a sample member is economically disconnected from formal employment, TANF, and SSI. A restricted definition of disconnected was used to capture women whose family earned income, cash assistance and SSI receipt during the interview month is zero.

Independent, individual-level variables come from the SIPP and include the demographic characteristics of: race (measured as a group of dichotomous variables) and age (measured continuously) of the mother, educational attainment (measured as a group of dichotomous variables: less than a high school education, high school graduate or General Educational Development [GED], and at least some college), whether the mother was never married (in comparison to separated, divorced, or widowed), whether the respondent

reported a work-limiting disability, the number of children under 18 residing in the household, the number of adults in the household, and residence in a metropolitan area.

Also, at the individual level two dummy variables indicating residence in public housing and receipt of subsidized rent were included in the model. These variables come from two separate SIPP questions. First, the SIPP asks if the respondent resides in public housing. Second, the questionnaire includes a question about Section 8 receipt. Section 8, renamed the Housing Choice Voucher program in 1998, continued to be the colloquial name for federally-funded housing vouchers during the 2001 and 2004 SIPP panels and to the present. In addition to these federal vouchers, some states and localities fund their own tenant-based rental assistance programs; although the SIPP questionnaire asks specifically about "Section 8," it is possible that respondents may have received such assistance but referred to it as Section 8.

Independent, state-level variables include the unemployment rate and welfare rules. The state unemployment rate controls for macro-level economic influences. Five variables measuring state welfare rules were also included in the model. The choice of state level TANF variables was based on an effort to create a parsimonious model and on their theoretical relationship to disconnection. The first variable is whether or not the state has a cash diversion program. The second measure of state TANF policies is the maximum monthly benefit for a family of three. The third state welfare variable is a composite measure of flexibility based on the Flexibility Index created by Fellowes and Rowe (2004). The Flexibility Index is a scale variable with values ranging from 1 to 12, where higher values indicate higher levels of flexibility in a state's TANF requirements. The Index is comprised of twelve individual welfare rules relating to exemptions from work activity requirements and to the severity of sanctions. The final two TANF rule variables are dichotomous variables related to the treatment of housing assistance. The first housing variable equals one if a state counts housing assistance as unearned income. The second housing variable equals one if a state takes housing into consideration when determining TANF grant amounts.

## Results: Profiles of Disconnection and Housing Types

To describe the characteristics of the sample members, variables are summarized for observations made in the first waves of each panel. Although the multivariate analyses utilizes person-wave observations, the descriptive statistics presented in this section focus on the person characteristics in the first wave of the panel in order to present a picture of the population of interest rather than the units of analyses. During this cross-section, 2,455 single mothers reported household earnings less than 200% of the poverty line and had a valid answer for questions on housing. Of these 2,455 women, 517 (21.0% weighted to the U.S. population) of them were disconnected, defined as reporting no earned income, TANF, or SSI receipt for the family unit during the month preceding the interview. About one-third of the 2,455 women (weighted proportion of 34.3%,  $n = 841$ ) received some type of housing assistance with more residing in public housing ( $n = 526$ ) than receiving subsidized rent ( $n = 315$ ).

Table 1 presents demographic characteristics for these low-income single mothers in the first wave of the panels. Comparisons are made among disconnected women and non-disconnected women residing in public housing, subsidized rent arrangements, and private housing. The average age for the entire sample is 31.4 years, with the age of particular groups ranging from 29.6 (for disconnected public housing residents) to 33.4 years (for disconnected subsidized rent recipients). With two exceptions, differences in other demographic characteristics are more pronounced among the types of housing arrangements than between disconnected and non-disconnected women. For example, in terms of race, approximately half of housing program participants in all subcategories are African American as opposed to about one quarter of those living in private housing. One notable exception to this trend is education level. Disconnected women tended to have lower levels of education, with about two out of five with less than a high school education, in comparison to less than a third of connected women with this lowest level of education. The second exception is residence in a metro area; a smaller proportion (about three out of four) of disconnected women resided in metro areas than did non-disconnected women, with more than four out of five women residing in metro areas.

Table 1. Means and Proportions of Select Characteristics of Single Mothers below 200% of the Poverty Line, Wave 1 Sample Members, Weighted by Final Person Weight

	Disconnected			Non-disconnected			Total
	Public housing residents	Subsidized rent recipients	Private housing	Public housing residents	Subsidized rent recipients	Private housing	
Average age	29.6 (8.1)	33.4 (10.2)	29.3 (9.7)	31.1 (9.0)	32.4 (10.2)	31.6 (8.6)	31.4 (8.6)
Race							
Black	48.9%	36.6%	23.8%	46.8%	47.2%	29.5%	34.3%
Hispanic	18.9%	18.3%	23.3%	21.8%	19.8%	27.0%	24.4%
White	25.2%	38.4%	47.2%	27.5%	29.9%	39.3%	36.9%
Other	6.9%	6.7%	5.7%	4.0%	3.0%	4.2%	4.4%
Education level							
< High school	40.1%	41.6%	33.7%	29.8%	24.3%	31.0%	31.2%
High school	30.0%	33.4%	29.8%	37.8%	40.2%	33.5%	34.2%
Some college	29.9%	25.0%	36.5%	32.4%	35.6%	35.5%	34.6%
Marital Status							
Never married	67.1%	63.2%	55.5%	61.8%	67.7%	54.1%	57.7%
Work limiting disability	19.5%	35.6%	15.0%	19.4%	23.8%	11.5%	15.4%
Avg # of children	1.9 (1.1)	1.9 (1.1)	1.7 (0.9)	2.1 (1.2)	2.0 (1.0)	1.9 (1.1)	1.9 (1.1)
Avg # of adults	1.1 (0.3)	1.2 (0.6)	1.5 (0.7)	1.3 (0.6)	1.2 (0.5)	1.7 (1.0)	1.5 (0.9)
Metro Resident	66.3%	70.2%	78.1%	79.4%	85.5%	79.9%	79.4%
n (un-weighted)	131	65	321	395	250	1,293	2,455

Notes: 2001 and 2004 SIPP panels, Wave 1, Sample members are also restricted to those with a valid response to the housing reciprocity survey question. Disconnected is defined as reporting zero earnings, TANF, and SSI for the family unit in the month preceding the interview month.

Table 2. Multilevel Logistic Regression Models of Disconnection, Odds Ratios Presented

	Model 1	Model 2	Model 3		Model 4	
			A	B	A	B
<i>Fixed Effects</i>						
<i>Individual Level</i>						
Housing recipient	1.061 (0.085)					
Public housing resident		1.221* (0.110)	1.201* (0.111)	1.202* (0.111)	1.147 (0.106)	1.149 (0.088)
Subsidized rent recipient		0.811+ (0.092)	0.821+ (0.095)	0.804+ (0.094)	0.764* (0.089)	0.749* (0.088)
African American (ref = White)			0.565*** (0.071)	0.559*** (0.071)	0.577*** (0.073)	0.570*** (0.072)
Hispanic (ref = White)			0.663** (0.097)	0.664** (0.097)	0.626** (0.093)	0.625** (0.093)
Other (ref = White)			0.945 (0.209)	0.958 (0.213)	0.946 (0.209)	0.957 (0.212)
Age			0.970*** (0.006)	0.970*** (0.006)	0.965*** (0.006)	0.965*** (0.006)
< High school (ref = HS grad or equivalent)					1.456** (0.168)	1.473** (0.171)
At least some college (ref = HS grad or equivalent)					0.925 (0.102)	0.945 (0.104)
Disability					1.937*** (0.197)	1.931*** (0.197)
Never married			0.960 (0.103)	0.978 (0.105)	0.922 (0.098)	0.940 (0.101)
Number of children			0.962 (0.041)	0.968 (0.041)	0.954 (0.041)	0.961 (0.041)
Number of adults			0.685*** (0.039)	0.680*** (0.039)	0.667*** (0.039)	0.663*** (0.039)
Metro residence			0.957 (0.109)	0.926 (0.107)	0.976 (0.111)	0.943 (0.109)
<i>State Level</i>						
Housing counts as unearned income				1.429 (0.383)		1.405 (0.372)
Housing alters benefit amount				1.236 (0.250)		1.211 (0.244)
Control for years			Yes	Yes	Yes	Yes
Controls for other state variables				Yes		Yes
<i>Random Effects</i>						
Intercept for State Effects	0.340* (0.073)	0.337* (0.073)	0.345* (0.077)	0.329* (0.082)	0.343* (0.077)	0.324* (0.081)
Intercept for Person Effects	2.407* (0.071)	2.404* (0.071)	2.388* (0.071)	2.389* (0.071)	2.370* (0.070)	2.371* (0.071)
Log likelihood	-7557.16	-7551.45	-7485.19	-7437.44	-7455.30	-7408.00
Wald chi <sup>2</sup>	0.55	11.93	135.18	147.45	190.72	201.91
Chi <sup>2</sup> for LR test vs. logistic regression	3206.01	3188.73	3122.78	3065.20	3052.78	3000.46
P-value of chi <sup>2</sup>	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00
n	16,937	16,937	16,937	16,846	16,937	16,846

Notes: Dependent variable is whether or not a woman is disconnected, defined as reporting no SSI, TANF or earned income for the family during the month preceding the interview month. Odds ratios with standard errors in parentheses are reported. + p < 0.10, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001



## Results: Multilevel Findings

Table 2 contains the results of six multilevel logistic regression models. Model 1 is a null model examining only participation in a housing program. Without controlling for any other independent variables, individuals participating in housing programs have similar odds of being disconnected as those in private housing. An examination of the influences on the person and state level shows that each level of grouping is an important explanation of disconnection. In other words, variation exists among the groups at each level, and observations within the groups, be they persons or states, are not unrelated.

Model 2 separates housing recipients into two groups. The results, found in column 2 of Table 2, indicate that opposite influences of the two types of housing programs account for the null findings in model 1. Examining the influence of public housing residency and subsidized rent receipt separately, those residing in public housing have a statistically significant increase in their odds of being disconnected, specifically 1.22 times the risk of being disconnected, compared to those in private housing. Those who receive subsidized rent have lower odds, but the coefficient is statistically significant only at the 0.10 level. The variance among individual and state level random effects remain similar to those of Model 1.

Models 3A and 3B include controls for individual demographic variables and 3B also includes state level controls. The models differ from Models 4A and 4B because they exclude controls for education level and work-limiting disabilities. In Models 3A and 3B residence in a public housing unit continues to increase the odds of disconnection at a statistically significant level, and receipt of a tenant-based subsidy decreases the odds of being disconnected in comparison to those in private housing at the 0.10 significance level. Results indicate the importance of a number of individual-level characteristics. African American and Hispanic women are less likely to be disconnected, and one's risk of being disconnected decreases slightly with age. The presence of other adults in the household has a notable impact on one's likelihood of being disconnected, with each additional adult resulting in a decrease in odds. The addition of state-level variables in Model 3B has little effect, as expected, on the covariates at the individual level. Although

other state controls are included in the model, results for only the two TANF variables related to housing are presented, as they are the policy variables of interest. Neither variable, however, is statistically significant. Counting housing assistance as unearned income has no effect, nor does the policy of altering benefit amounts based on housing assistance.

The inclusion of individual-level variables measuring education level and work-limiting disabilities in Models 4A and 4B alters the statistical significance of the influences of public housing residence and the significance level of subsidized rent receipt seen in Models 3A and 3B. In this last set of models, the increased odds of public housing residents are no longer statistically significant, but the decreased odds of tenant-based housing recipients are now significant at the 0.05 level. Two of the newly added individual variables increase one's likelihood of being disconnected. Those with a work-limiting disability have 1.93 times the odds of being disconnected compared to those without a disability, and those with less than a high school education have 1.46 times the odds of disconnection compared to those with a high school diploma or GED. Women with at least some college have similar odds of disconnection as those with a high school level education. The inclusion of these variables reduces the among-person variance from that of Model 2, but only by a small amount, indicating that they explain only a small portion of why particular women experience a spell of disconnection. State-level fixed effects are added in Model 4B, but do not change the estimates of individual-level influences, and the two state level policy variables are not statistically significant.

## Discussion

We found that single mothers living in public housing have increased odds of disconnection from welfare and work in comparison to other low-income women with private housing when controlling for no or a limited number of individual- and state-level variables. When adding additional individual-level controls for disability and education, we found that women who receive tenant-based rent subsidies have decreased odds of economic disconnection in comparison to low-income women in private housing. Findings indicate that state level

welfare rules concerning the treatment of housing assistance did not have an effect on an individual's risk of disconnection, which suggests that TANF applicants may not be aware of how their states account for housing assistance when determining benefit amounts and eligibility or that these rules are not important in making decisions related to benefit applications.

From a strictly statistical perspective, one could argue that the results in Models 2, 3A and 3B, indicating the importance of both housing program variables, are less important than those of Models 4A and 4B that support the importance of tenant-based subsidies alone. From a practical programmatic and policy perspective, however, the results from Models 2, 3A and 3B are critical in designing interventions and programs, as housing status is an important platform through which policymakers can reach vulnerable families. Public housing residents are more readily identified and programs can more easily be targeted to them than either women with self-identified work-limiting disabilities or those with less than a high school education.

The importance of individual-level influences on disconnection also is relevant to housing status. We suspect that African American and Hispanic women are less likely to be disconnected than White women because, given their greater poverty, they are less likely to have access to unreported forms of cash support via work, child support, or assistance from family and friends. We suspect that the presence of additional adults in the household leads to lower likelihoods of disconnection both because larger households need more income, and thus are more likely to persevere in seeking benefit programs and employment, and because additional individuals in the household may result in eligibility for additional government programs.

Our findings are tempered by two limitations. First, the research does not account for variations in the housing market by time or location. Housing markets can influence housing assistance recipients' choice of public housing or rental assistance. In a very tight rental housing market, for example, recipients may choose public housing over rental assistance, because they are concerned that they might not be able to locate appropriate housing in the private market. Nationally, the success rate for voucher holders leasing apartments is now at 69 percent (Katz

& Turner, 2007). In a more relaxed market, recipients might be more likely to opt for rental assistance, because they have more control over their location and housing units, and have the flexibility to move, perhaps to be closer to a work opportunity. The safety, location, and maintenance of public housing projects in a community also may influence whether recipients choose that form of assistance.

Second, the findings suggest the possibility of selection bias in terms of who lives in public housing. Housing assistance may promote or reinforce economic disconnection, but it also may attract households that are disconnected or prone to becoming disconnected. Many anecdotal accounts assume that public housing residents experience more extreme and generational poverty, welfare receipt, and other barriers to employment than voucher recipients, who in some cases actively seek to leave the areas of extreme poverty where many public housing developments are located.

In contrast to most assumptions, however, public housing residents do not look very different from housing voucher recipients overall. In 2008, public housing residents had average annual household incomes of \$13,600, compared to voucher holders' average household income of \$13,100, and the percentage of households in which the majority of household income was from employment, and those in which the majority was from welfare were also similar. Public housing households have been in their housing longer: on average, 8.7 years in contrast to 6.2 years for voucher households, although they have been waiting for those units for less time, 10 months in contrast to 26 months for voucher households. And public housing households, not surprisingly given the long history of locating public housing developments in distressed neighborhoods, live in Census tracts with higher rates of poverty and of racial minorities (HUD, 2008a). It may be that the characteristics of disconnected single women living in public housing mean that they are more entrenched in poverty than those who receive housing vouchers, but there are no existing data to explore these issues.

Therefore, we acknowledge that these selection issues are important to consider and explore in future work. Based on our findings, disability and lack of a high school education are more important in accounting for economic disconnection

than public housing residence itself, further suggesting a selection effect based on these factors. Although selection bias may limit our ability to answer our second research question conclusively, it does not weaken our answer to the first question. Our findings regarding the differences in housing type, without other controlling for other characteristics, support the need to use public housing as a platform for outreach and services to these vulnerable families.

### Conclusion

Disconnected families are one of the most vulnerable groups ignored by existing social policies. Our research findings add to the empirical understanding of disconnected families by focusing on housing status and its relationship to economic disconnection, a topic that has not been explored in this way by other researchers. The findings also provide timely evidence to current policy discussions around welfare and housing. The continuing discussions and debates related to TANF reauthorization provides an opportunity to create and implement policy that directly addresses the needs of women who might benefit from more intensive casework, more flexible work-related rules, and more extensive safety net support. Moreover, much of the policy and program interventions targeted at public housing over the past two decades have sought to address the disadvantages resulting from public housing's location in high-poverty areas and its concentration of extremely low-income households. Information about disconnected women living in public housing is key to policymakers as they seek to refine these programs, and perhaps integrate greater outreach to this at-risk group and increased collaboration with welfare and work initiatives.

Our study shows that public housing is a place where resources should be concentrated. For many of these disconnected families, public housing is the last safety net keeping them away from homelessness. Because public housing residents are more easily identified and reached than those with self-reported work-limiting disabilities and those with less than a high school diploma, it is relevant to consider seriously the relationship of housing status to disconnection without controlling for disability and education. Additionally, as local public

housing authorities face increasingly tight budgets and need whatever rental income they can collect in order to support their operating budgets, they have an incentive to ensure that all eligible residents are receiving public assistance and other benefits. Our findings support the need for integrated, holistic programs, like that proposed by Blank (2007), which address the multiple needs of vulnerable families, to be top on the TANF reauthorization agenda.

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