

LIFE COURSE TRANSITIONS AND INTERNAL MIGRATION:
CONSEQUENCES FOR FAMILY TANF PARTICIPATION

by

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Abstract

Is the common wisdom that poor families move to get better welfare benefits confounded by life course changes that are happening in the family? If so, how do family life course and migration events combine to influence family economic well-being (De Jong and Graefe 2006), but how do they influence access to and participation in Temporary Assistance for Needy Families (TANF)? The interaction effects of family life course events (i.e., having a child, becoming separated/divorced, becoming married) with migration are seldom conceptualized and measured in research on the economic well-being of families. The more usual focus of the migration literature is on family and household structure rather than on family life course processes. Based on life course transition theory and longitudinal population survey data for the 1996-1999 and 2001-2003 panels of the Survey of Income and Program Participation, we utilize random coefficients models in a discrete-time event history framework to provide new evidence on how before- and after-migration life course events affect post-migration family TANF receipt of inter- and intrastate migrant women. Results show that, net the effect of factors selecting families and individuals to migrate, in the absence of some family-composition-altering event, neither intrastate nor interstate migration has a significant relationship with family TANF participation, regardless of race or Hispanic background. Whether TANF receipt follows a migration event depends on whether a woman experiences family composition changes, the timing of that disruption, and her racial/ethnic background.

INTRODUCTION

Despite the notion that poor families move to places offering better welfare benefits (Schram, Nitz, and Krueger 1998), the interactive influences of family life course and migration events have never been investigated for their role in welfare participation. Since the pull of welfare support may be greatest under life course change-related circumstances resulting in family economic disadvantage, this oversight may explain why researchers have found only small effects of welfare-motivated migration in past studies (e.g., Schram, Nitz, and Krueger 1998; Levine and Zimmerman 1995; Hanson and Hartman 1994; Walker 1994). Significant family life course transitions such as marital and family composition changes can trigger changes in both family well being and migration behavior. As Cooke (2006:2) notes, “migration and the family are interdependent because a change in one nearly always involves a change in the other.” Thus it is surprising that family life course events are not well conceptualized and measured as alternative family-level explanations to the more ubiquitous micro-economic work and income explanations for why families move. Nor are the consequences of family life course transitions after migration typically modeled, even though transitions such as marriage and divorce can have dramatic impacts on the economic well-being of families, and according to microeconomic theory, migration can be a strategy for improving the family economy. In this paper we address the dearth of migration scholarship on how family life course events interact with inter- and intrastate migration events to affect access to and use of Temporary Assistance for Needy Families (TANF) among migrant families.

The usual approach to welfare migration in the demographic and economic literature tests the “pull” for poor families of states with comparatively better welfare benefit packages – usually

based on welfare dollars. More recently, these studies have added welfare eligibility to the model since welfare reform freed states to establish their own sets of rules dictating welfare access (e.g., De Jong, Graefe, and St. Pierre 2005). To our knowledge, however, none incorporates the particular life course situations that families face which place them at greater risk of needing welfare assistance.

Furthermore, the usual approach to life-course-event motivations in the migration literature is to develop arguments about migration causes and consequences in relation to family and household structure, rather than family life course processes. For example, there is now extensive demographic empirical research on the effects of married couple migration on the employment and income of married women. This literature generally shows that following a move, married women are less likely to be employed and thus more likely to experience an income decline that sometimes lasts for several years (Mulder and van Ham 2005, Clark and Huang 2006, Cooke 2003, Greenwood 1997). However, there is relatively little research on the impact of family life course transitions on the economic outcomes of migrant families (Cooke 2006), primarily because there is no prospectively designed, national longitudinal internal migration survey for the U.S. that provides current migration as well as family life course and economic outcome event history data.

An exception is our recent study using longitudinal data from the 1996-1999 and the 2001-2003 panels of the Survey of Income and Program Participation (SIPP) which found that family life course events before and after migration interact to affect post-migration employment, poverty level, and family earnings levels and trajectories (De Jong and Graefe 2008). The current study extends that research by asking: How do women's life-course and migration events interact to

influence family TANF participation, and how do these relationships differ by race and ethnicity? We address these research questions with a focus on the TANF receipt of poor and near-poor families headed by women over the observation period prescribed by the SIPP panels.

It is useful, first, to review the current state of life course and migration theories and how these perspectives may contribute to understanding TANF participation. In addition, we inter-relate these theories with the long-standing debate over whether poor families are motivated by welfare benefits and eligibility policies to migrate.

BACKGROUND

Life Course Theory, Migration and Family Economic Well-Being Outcomes

Life course theory focuses on how people formulate and pursue their life goals, and how they may be enabled or constrained by structural opportunities and limitations in their lives. The proposition that the order of life course events has an impact on subsequent behavior and outcomes is another basic idea in the life course framework. Life course theory as applied to migration posits that causes and consequences of migration behavior ensue from transitions in family and socioeconomic status that occur over the life course.

While the idea that life cycle stages condition housing and employment decisions is not new, Rossi's (1955) application of this perspective to migration behavior was a stimulus to empirical analyses, particularly of elderly migration (Litwak and Longino 1987, Wiseman and Rosman 1979, Longino et al. 1991, De Jong et al. 1995, Robison and Moen 2000, Stoller and Longino 2001, Walters 2002). As applied to younger adults, life course theory of migration stems primarily from the age-related character of family demographic transitions. From this theoretical perspective of residential mobility, the move is viewed as a response to life course events and not

explicitly a social mobility behavior (Clark and Withers 2002). Some life course events such as separation or divorce imply migration of family members almost by definition. Other events, such as the birth of a child, in principle do not imply a migration. Nevertheless, the birth of a child can induce migration, for example, to adjust the size of the dwelling to that of the family or to adjust to changes in income demands. The direction of causality in most cases goes from family life course events to migration, although the stress and employment changes associated with a migration event may be a stimulus for a reverse causal logic (Mulder 1993:24).

What is the impact of migration on the economic well-being of families and how does it intersect with the life course process? Following from Becker's (1974) and Mincer's (1978) writings on human capital theory and marriage, migration decision making is based on the potential economic opportunities, costs, and gains to the entire household unit. Indeed a forceful argument of the household economic theory is that labor force migration will not occur without strong expectations of social mobility and improved family economic well-being. While this economic theoretical perspective is most often applied to analyze determinants of household migration, the logic also applies to its economic consequences. A major strand in migration literature documents the inequality in work and earnings returns to migration for male compared to female household members, but the economic theoretical framework does not address the impact of life course events. Indeed, the labor market and family life course migration literatures have been quite separate.

The impact of migration on the economic well-being of families is also related to the theoretical perspectives on types of geographic mobility – i.e., the differences between interstate (longer distance) and intrastate (shorter-distance) moves. The significance of this distinction is rooted in the different motivations for migration across these streams. Shachter (2004) shows these

contrasting patterns, with over 42 percent of longer distance migrants reporting work and education-related reasons for migration, while housing-related reasons were given by nearly half of shorter-distance migrants. Theoretically this points to social mobility as a dominant anticipated outcome for interstate migration, while theoretical concepts regarding housing and neighborhood adaptation underlie anticipated outcomes for intrastate migration. Family life course events such as childbearing, divorce/separation, and marriage arguably interface with each of these types of geographic mobility to impact the economic well-being of families.

Several social mechanisms which help explain the patterns of life course transitions are applicable to the consequences of migration questions in the current research. First, the life course “agency” perspective, defined as the active process of choosing appropriate interpersonal as well as institutional and organizational relationships, focuses on the concept of planful competence (Shanahan 2000). Clausen (1991) describes planful competence as thoughtful, assertive, and self-controlled processes that underlie the choices of these interpersonal relationships and institutional involvements. Planful competence is concerned with the capacity of selecting social settings, including geographic places, which best match the abilities, goals, values, and strengths that help individuals negotiate the life course. Supporting this perspective, Clausen and Jones (1998) have demonstrated that individual variation in planfulness as a personality construct in early life has pervasive effects on functioning in mid-life, including marital stability, educational attainment, occupational attainment, and life satisfaction.

Second, variations in life course patterns and their consequences are affected by social structures. Key among salient social structures affecting life course transitions is the family. Studies show that family poverty, notably the duration of poverty, interacts with family life course

transitions to produce disadvantaged life course profiles for adolescents and young adults (Duncan and Brooks-Gunn 1997, Haveman et al. 1991). Conversely, net of economic resources, stability in family structure may lead to positive outcomes, attributable in part to greater stability of roles, rights, and responsibilities within stable family structures (Shanahan 2000). The consequences of family life course transitions may also be related to the number of events and the timing of experiences which render events more or less salient for social and economic outcomes (Allison and Furstenberg 1989). For example, the "focal theory of change" argues that young people are better able to cope with the stress of significant life course events serially rather than simultaneously (Coleman 1974). This scholarship suggests that the combination of family transitions (i.e., marriage, divorce, child bearing) and migration may interact to demonstrate unique positive or negative outcomes, including economic outcomes, for individuals and households.

Several general analytical arguments guide our analysis of the impact of migration and life course events on the TANF participation of poor families. First, marriage may have an ambiguous relationship with migration. On the one hand, we expect that becoming married will enhance the likelihood of family employment and family earnings, and reduce the likelihood that the family unit will be in need of welfare assistance. Marriage increases the probability that at least one if not both adults are in the labor force and that family income will increase, notably for dual-earner families. The family economic well-being benefits of becoming married would be expected for marriage before as well as after migration, notwithstanding the migration literature on the short-term negative post-migration employment outcomes for women (Clark and Huang 2006, Mulder and van Ham 2005, Greenwood 1997, LeClere and McLaughlin 1997, Spitze 1984). Thus, we would expect marriage to reduce the need for TANF participation, regardless of migration. On the other hand,

welfare reform's devolution of policy decision making to the states has resulted in across-state variation in the TANF eligibility of married couples, and the economic benefits of marriage are understood to vary by race. Increased access to welfare benefits in some states may motivate interstate migration to those states among the most disadvantaged married couples.

Second, life course events of becoming separated or divorced would be expected to have a negative effect on family economic well-being because of the rupture in employment patterns and the resulting decline in family unit income streams, particularly for single-mother-headed families. Increased need for public aid may result. These negative family economic well-being impacts may be exacerbated for families experiencing separation or divorce after migration, when the combination of post-migration economic adjustment and the stress of establishing network ties in a new community are particularly acute. On the other hand, separation or divorce may motivate migration to better job opportunities, or for better TANF benefits, respectively reducing or increasing TANF participation rates.

Third, the impact of having a child on family economic well-being may be different for family units experiencing the event before and after migration. If it is assumed that both childbearing- and social-mobility-motivated interstate migration are likely to be planned events, then having a child might be expected to have little impact on subsequent family TANF participation. If having a child motivates labor-related migration, then migration following a birth should reduce the likelihood of TANF participation. Likewise, having a child following a migration may be a response to migration-related improvements in family well being and thus reduce the likelihood to family TANF receipt. For poor families, however, having a child, whether planned or not, may decrease the family income-to-needs ratio sufficiently to make the family

eligible for welfare assistance, regardless of migration behavior.

In sum, these life course events may condition the effects of migration because they change the family's need for welfare assistance. Their absence from prior welfare-migration research may explain why welfare has never been found to have a strong pull on migrants. Conversely, these events may make it appear that families migrate to gain welfare benefits when the welfare gain may actually result because of the family change rather than due to the migration.

The Welfare Migration Debate

The welfare migration debate states that welfare benefits and policies will motivate migration among the poor, and this argument assumes that these families will be more likely to receive welfare assistance at their destinations than in origin locations. Early studies of welfare migration, for the 1960s (e.g., Cebula 1979; Long 1974; De Jong and Donnelly 1973; Sternlieb and Indik 1973; Beale 1971; Piven and Cloward 1971; Steiner 1971), 1970s (e.g., Dye 1990; Blank 1988; Gramlich and Lauren 1984), and 1980s through early 1990s (e.g. Schram, Nitz, and Krueger 1998; Levine and Zimmerman 1995; Hanson and Hartman 1994; Walker 1994), presented conflicting and inconclusive results as to whether poor families move primarily to maximize their welfare benefits. Typically in these studies, the measurement of employment status, educational enrollment, marital status, fertility, and other predictors after, rather than before, the move presents a major analytical problem. Since these factors not only determine, but also result from, the migration process and are important criteria for welfare eligibility, their temporal order relative to migration thwarts the interpretation of results. But even the latest research, which utilizes temporally appropriate data to test both "push" and "pull" effects of post-welfare reform TANF policies that vary across states, shows that poor families are more likely to leave states with

stringent welfare eligibility policies but are not drawn to states with more lenient eligibility rules (De Jong, Graefe and St. Pierre 2005). None of these studies consider the potential for life course events to condition the role of migration in the pursuit of welfare benefits.

Much of the literature is based on a rational-choice model of migration, where individuals engage in a cost-benefit calculation before deciding to move (Schram and Soss 1999). This migration model starts with the basic microeconomic theory assumption that individuals and families, including poor families, try to maximize their quality of life (utility) (DaVanzo 1981, Todaro 1989). Applying this perspective to migration decisions, rational actors decide to move or stay because cost-benefit calculations lead them to expect positive returns from migration (Massey 1998, Schram and Soss 1999). Potential migrants are thus assumed to assess the advantages and disadvantages of (alternative) destinations, and migrate to the destination that maximizes their quality of life (Fischer et al. 1997). Following Speare et al (1982), where the decision to migrate is triggered by family unit experiences of residential, job, or income dissatisfaction, the triggers to migrate should include family life course events that bring about those experiences. Thus, the potential for welfare migration should be greatest for those experiencing these events. Since the implementation of PRWORA, the choice of an alternative residential location for poor families may be affected by more generous welfare policies in another state, but mostly for families experiencing life course trigger events. On the other hand, generous state welfare policies may result in higher residential satisfaction in the origin area, which would reduce the motivation to look elsewhere and inhibit out-migration. If so, TANF participation among those who marry may be no different for nonmigrants and interstate migrants.

The Current Study

The current study builds on the life course migration literature by testing the thesis that family life course transitions interact with move/stay and geographic type of migration behavior to explain family TANF participation in the U.S. Adult women, ages 18 to 64, who head poor and near-poor families any time during the SIPP observation periods (1996-1999 and 2001-2003) form the basis for our analysis of family TANF receipt. Congruent with life course theory, we include time during which these women transition into and out of marital unions, including time as a married head and as a single-person head. Importantly, our statistical tests control for alternative explanations of state economic opportunity characteristics and for unobserved stable characteristics that select individuals to migrate (Allison, 2005).

Longitudinal data limitations have prevented many previous migration researchers from using direct life course measures. Instead they have characterized households by age of the head and number of children or household size. For example, Frey (1984) used age cohort data as proxy measures of life course processes to show different black and white suburban destination migration patterns in major U.S. metropolitan areas. Age cohorts were posited to reflect shifting cohort patterns in family formation and childbearing over the three-decade study period. Similarly, Bellemar (2004) used individual age as a proxy for life cycle transition to develop and document a dynamic model of out-migration behavior for German immigrants. In contrast, the longitudinal nature of the nationally representative SIPP data permits us to construct direct measures of three family demographic life course transitions – 1) became married, 2) had a child, and 3) became separated or divorced. We hypothesize that the effects of migration events on family well being, as measured by family TANF receipt, will be conditioned by marriage, childbearing, and separation/divorce. We further test whether some of these relationships may be explained by state

economic or welfare policy context. We also include a measure of return migration behavior as a control variable based on migration theory and literature documenting attachment to place of origin effects (Dublin 1998, Schram et al. 1998). Since the returns to migration are known to increase over time after migration, our analysis also evaluates the change in TANF participation over time. Since work, welfare and family formation experiences may vary by race and ethnicity, we test models for all poor and near-poor families with a woman head and separate models for black, Hispanic, and non-Hispanic white families.

RESEARCH DESIGN, DATA AND METHODOLOGY

Two recent longitudinal panels of the Survey of Income and Program Participation (SIPP) are combined to provide nationally representative data on families during 1996-1999 and 2001-2003. The 1996 SIPP Panel covers four years (48 months) and the 2001 SIPP Panel encompasses three years (36 months) of observation. The pooled data include 8,517 poor and near-poor family heads for our monthly event history-based analysis of family TANF participation after migration. These families provide 277,262 person-month observations – 138,241 in which the families were headed by non-Hispanic white women; 77,717, by black women; and 61,304, by Hispanic women. Individual versus family member status is determined using SIPP's edited monthly indicator of family status (ESFT), and only months after which a woman becomes a family head, though either marriage or childbirth, are analyzed. That is, a person's family status is time-varying, and the family is considered as a single unit of analysis, represented by the female family head.

SIPP provides a rich set of monthly data describing individual labor force participation, marital status, family composition, and residential location relative to residence in the past month, as well as income and income sources at the individual and family levels. To these data we merge

lagged annual state job growth and unemployment rate data and welfare policy stringency measures for models testing state economic and policy conditions as explanations for migration effects. Our discrete-time event history models incorporate a difference-in-difference approach that effectively controls for unobserved time-invariant migration-selection characteristics to investigate the direct consequences of inter- and intrastate migration on family TANF participation and the consequences of migration conditional on family-composition-changing life course events.

Variable Constructions

The outcome variable in our analysis is family TANF receipt (coded “1” if yes and “0” if no), provided directly by SIPP. More than 8 percent of the total study sample received TANF during the observation period. Our empirical and theoretical interest focuses on the consequence of inter- and intra-state migration without life course change and with marriage, marital dissolution, or the birth of a child occurring before or after these migration events. Among those who did not migrate, 8 percent of those with no life course event, 13 percent of those who had a birth, 10 percent of those who married, and 5 percent of those who became single ever received TANF. Among respondents who migrated to another state, around 9 percent of those experiencing no life course event, a birth before or after the move, or a marriage after the move; 6 percent of those who became single, and 11 percent of those who either married or became single after migrating ever received TANF. Among those who migrated within their state of residence but experienced no life course event or who married before or after the move or became single before the move, about 15 percent received TANF; 10 percent of intrastate migrants who became single after the move received TANF. Among intrastate migrants who had a child, 16 percent of those who gave birth after the move and almost a quarter of those who gave birth before the move were TANF recipients.

Clearly, intrastate migrants were most likely to ever participate in the TANF program, but these figures do not reflect timing of the TANF receipt in relation to the migration event. The distribution of months receiving TANF after falling into each of these categories, shown in appendix Table A1, is based upon person months used in the analysis and demonstrates that intrastate migrants also received TANF for longer time durations than others.

One approach to modeling for our research problem is to interact migration types by life course change by timing of these events using traditional interaction terms; however, interpretation of multiple and higher order interactions becomes quite complex. Although our interaction-equivalent specification is still intricate, to ease interpretation of conditional effects, we create 18 monthly time-varying dummy variables to indicate status as a 1) nonmigrant with no life course event (“nonmigrant”), 2) nonmigrant who became married (“became married”), 3) nonmigrant who became single (“became single”), 4) nonmigrant who had a birth in the family (“had birth”), 5) interstate migrant with no life course event (“interstate migration, no life course event”), 6) interstate migrant who became married before migration (“interstate migration, became married before move”), 7) interstate migrant who married after migration (“interstate migration, became married after move”), 8) interstate migrant who became single before migration (“interstate migration, became single before move”), 9) interstate migrant who became single after migration (“interstate migration, became single after move”), 10) interstate migrant whose family had a birth before migration (“interstate migration, had birth before move”), 11) interstate migrant whose family had a birth after migration (“interstate migration, had birth after move”), 12) intrastate migrant with no life course event (“intrastate migration, no life course event”), 13) intrastate migrant who became married before migration (“intrastate migration, became married before

move”), 14) intrastate migrant who married after migration (“intrastate migration, became married after move”), 15) intrastate migrant who became single before migration (“intrastate migration, became single before move”), 16) intrastate migrant who became single after migration (“intrastate migration, became single after move”), 17) intrastate migrant whose family had a birth before migration (“intrastate migration, had birth before move”), and 18) intrastate migrant whose family had a birth after migration (“intrastate migration, had birth after move”). These interaction-equivalent dummy variables thus provide main-effect estimates for migration/life course event combinations in relation to the model referent.

Certainly, some families will experience multiple life course events and some will move both within and across state lines. Our strategy permits respondents to be coded “yes” on as many life course and migration events as they experience. Thus, effects for any particular life course by migration event will be net the effects of other possible event combinations. Only the nonmigrant and migration-only (i.e., with no life course event) categories do not overlap, by definition. This specification permits modeling a variety of contrasts (i.e., reference categories) and allows us to model the additive effects of experiencing more than one of these categories (e.g., both interstate and intrastate migration during the observation period).

To achieve this specification, our indicators of migration plus a life course event are time-varying. They cannot become a “1” until both events have occurred. Thus the indicator is “1” on nonmigrant and “0” on the other 17 migration/life course event dummy variables from the beginning of the observation period until either a life course event or a migration occurs. If, for example, the first event occurrence is a life course change, the nonmigrant indicator becomes “0” and the life-course-change-without-migration dummy becomes “1”; if a migration occurs

subsequent to the life course change, then at the point of migration, the life-course-change-without-migration dummy becomes “0” and the migration-with-life-course-change-before-move dummy becomes “1.”

Almost three fourths of person-months following an interstate migration also followed an intrastate migration, and 10 percent of person-months after an intrastate migration also followed an interstate migration. The percentages of person-months after which any two particular types of migration/life course event combinations occurred together are presented in appendix Table A2 for each migration/life course event category. As indicated in that table, women who became single were more likely than other women to experience both interstate and intrastate migration.

For our purposes, we consider an event to occur before a move if it happens in any month prior to the month of migration, and after a move if it happens in the same month or any month after the month of the migration event. Table 1 presents percentage distributions for life course events that occurred before or after migration for interstate migrants, for those who never migrated to another state during the observation period, for life course events that occurred before or after migration for intrastate migrants, and for those who never migrated within the same state. These descriptive statistics show that 5.8 and 23.9 percent of families engaged in inter- and intrastate migration, respectively. Among interstate migrant family heads, 4.5 percent became married, 2 percent became single (separated/divorced), and 4 percent had a child in the months preceding migration, and 8.2, 8.1, and 4.7 percent, respectively, in the months after migration. Nonmigrant families generally have higher frequencies of family life course events than migrant families. Interestingly, family life course events are more frequent after the move, except in the case of intrastate migrants having a child, suggesting that the latter migration may be motivated by the new

addition to the family.

Table 1 about here

Because low-income families are most likely to rely on TANF, we use total family income and family-size-based poverty income level variables provided by SIPP for each respondent in each month to determine monthly family poverty level as equal to total income divided by poverty income level in that month. Poverty level is averaged over the observation period for each respondent, and averaged poverty level is used to limit the study sample to poor and near-poor families with a female head. These are defined as those with family incomes, on average, below 200 percent of the poverty level for the family's size and composition.

Table 1 also shows that 3.34 percent of person-months involve attrition from the sample, and that a high percentage of these involved a separation or divorce. Becoming single is expected to increase the likelihood of receiving family TANF. If TANF receipt after migration and attrition (which is likely to involve unmeasured migration) are similarly distributed, then our results for migration combined with becoming single will not be biased by attrition. If, however, those who leave the sample are more or less likely to receive TANF, our results will under- or over-estimate, respectively, the effects of the migration after becoming single category. Thus we interpret this result with greater caution than results for other migration/life course event combinations.

Our models also include several control variables, of which only race and ethnicity are a fixed-time covariate (coefficients not reported). Race and ethnicity measures are dummy variables for non-Hispanic white (reference category), non-Hispanic black, and Hispanic. Age of respondent is included as a continuous variable and as a quadratic term. Educational attainment is categorized as dummy variables for less than high school, high school diploma (reference category), and more

than high school. Marital status of the female head is coded as currently married (reference category) versus not married. In addition, we include a dummy variable to indicate whether the state of residence is one in which the respondent lived previously if more than one interstate migration has occurred – a measure of return migration.

State economic characteristics are created from data obtained from the Bureau of Labor Statistics and state welfare policy stringency indicators are from the Welfare Dimensions Summary Scores (WDSS) data, available from the Population Research Institute, Pennsylvania State University. These state characteristics are merged by the respondent's state of residence and lagged one year. Economic measures include state annual unemployment rate and job growth, which are expected to mediate migration effects if migration represents a strategy for improving family economic well being by increasing access to employment. Policy measures are summary scale scores representing state eligibility stringency regarding time limits, work-related activities requirements, welfare rules noncompliance penalties, and two-parent family benefits receipt. Stringency on the first three measures is expected to reduce the likelihood of TANF participation for all families, and the fourth is expected to reduce welfare receipt among those experiencing a marriage. Failure to control for stringent welfare policies potentially masks the effects of migration or family life course change (an omitted variable bias problem). We present the results for these measures, but discuss only the role of stringent two-parent eligibility policy.

Analytical Strategy

Our research question is addressed by applying the hybrid random effects/fixed effects growth-curve model described by Allison (2005) to welfare receipt based on person-month data. A first-difference test is whether gaining welfare assistance varies by migrant versus non-migrant

status. Here, by contrasting the effects of migration without a life course event against the effect of no migration and no life course event, we estimate of the effects of migration alone. A second-difference test is achieved by comparing the conditional effects created by interaction-equivalent migration and life-course event categories with the main effects of the migration and life course events alone. Contrasting the effects of migration with a particular life course event before or after migration against the effects of migration without a life course event shows the difference conditional on the life course event, while contrasting against the same life course event without migration shows the difference conditional on the migration. When both of these contrasts show statistically significant differences, the difference is uniquely attributable to the combination of the migration with the life course event.

Interactions of migration and life course event categories with time (duration) show how the relationships with welfare participation change over time after these events – the growth curve aspect of the model. Main effects represent the intercept for the migration/life course event category, while the migration/life course event category-by-time interaction effects represent the slope.

Ordinary regression models using person-month data potentially overstate the statistical significance of estimates, necessitating a methodology for adjusting standard errors for violation of the non-independence assumption of ordinary regression which occurs with clustering in the data. Our solution is to use a random effects modeling approach, which permits determination of within- as well as between-family effects. Furthermore, our model estimates fixed effects for time-varying covariates by centering each of these variables around the respondent's mean for that variable; i.e., each respondent serves as a “group” with multiple monthly observations, or “members.”

Estimating effects for group-centered variables is computationally similar to calculating fixed effects using generalized estimating equations (GEE) and controls for all time-invariant covariates (Allison 2005), including unmeasured characteristics that may bias our estimates for the time-varying migration behaviors. It does not control for unmeasured time-varying characteristics.

This strategy also permits estimation of fixed-time covariates, which is not possible in a conventional fixed-effects model. These estimates of effects for fixed-time (i.e., stable) characteristics, unlike those for time-varying measures, do not control for unmeasured static characteristics, however, and we report only the estimates for the centered covariates of substantive interest to our research problem.

In sum, our models include the centered covariates of interest (providing within-person estimates), group mean indicators as controls for unmeasured time-invariant characteristics (providing between-person estimates), and other control variables for personal and state economic and welfare policy characteristics, plus duration terms. Significance is indicated for differences 1) between each coefficient and the effect of no migration and no life course event (the reference category in our models) and 2) due specifically to the migration/life course event combination (the second-difference contrast discussed above).

RESULTS

How do life course events before and after migration affect post-move family welfare participation? Table 2 presents migration and life course event coefficients of interest plus estimates for state economic and policy indicators. All models also include duration, race/ethnicity, age, marital status, educational attainment and return migration indicators (results not shown), primarily as controls for time-varying characteristics that are related to migration and family

formation behaviors. Model 1 presents main- and interaction-effect estimates for all poor and near-poor women, and model 2a adds an interaction term for “marriage before interstate migration” by “stringent two-parent welfare eligibility policy” for all women. Models 2b-2d repeat the model specified in model 2a, where 2b includes only non-Hispanic white women’s families; 2c, black women’s families; and 2d, Hispanic women’s families.

First, it is notable that the main effects of interstate and intrastate migration without a life course event, compared with no migration/no life course event, are not significant predictors of TANF receipt among poor and near-poor families, regardless of race or Hispanic origin (Table 2). But over time after interstate migration, the likelihood of TANF receipt increases, while over time after intrastate migration, it decreases (see interactions of time with “no life course event, interstate migration” and with “no life course event, intrastate migration”).

Second, as expected, among nonmigrants, both having a child and becoming single increase the likelihood of TANF participation, although this probability decreases over time after the event. Models 1 and 2a, for all poor and near-poor women, show that becoming married appears to have no main effect, but examination of its effect separately by race/ethnicity shows it has the expected negative main effect for non-Hispanic white women’s families, but that this likelihood increases over time after marriage (model 2b). It has an unanticipated positive effect that does not change over time for minority women (models 2c and 2d) – the families of black and Hispanic women are more likely to receive TANF after marriage than their counterparts who do not experience marriage. Because many states traditionally barred most married couple families from welfare participation, it is important to consider welfare policies regarding two-parent family participation in the state of residence when interpreting these effects. For black women, model 2c shows a

negative effect for stringent rules regarding two-parent family eligibility, and in the most stringent states, which exclude married-couple families from TANF, this effect reduces the odds of TANF receipt almost 2 percent ($e^{(-.01*1.55)} = e^{-.0155} = 0.98$) and offsets the 2 percent increase in the odds that results from becoming married ($e^{.02} = 1.02$). Thus, only in states with more lenient TANF policies toward married-couple welfare receipt is TANF participation truly more likely for black women who marry. For Hispanic women, the effect of the policy is also negative, but as for white women, is not statistically significant.

Table 2 about here

Of course, the primary focus of this study is the interaction effect between these events and migration behaviors. For ease of discussion, we review the results for each life course event combination with interstate and intrastate migration.

Childbearing Before and After Migration

Model 1 shows that, compared with nonmigrants who experienced no life course change, *interstate migrants who had a child* were neither more nor less likely to receive TANF assistance immediately after the move. When the model controls for the interaction between marriage before an interstate migration and stringency of welfare policy regarding two-parent family eligibility (model 2a), we find that that *having a child before moving to another state* increases the odds of TANF receipt 4 percent ($e^{.04} = 1.04$), but overall this effect is no different from the effect of having a child and not migrating ($e^{.05} = 1.05$). Models 2b, 2c, and 2d demonstrate that the effect varies by race and ethnicity. For Hispanics, the effect is negative; for whites, it is positive and increases significantly over time, and for blacks, the main effect is relatively large, increasing the likelihood of TANF receipt 39 percent ($e^{.33} = 1.39$). Possibly interstate migration after having a child is a

response to economic stress brought on by the birth. For white and black families, the post-migration solution appears to be welfare participation. Hispanic families, especially if many are immigrant families, may be more likely to move to other states to join extended families (Liaw and Frey 1998; Gover 1993; Waldinger 2001), providing social network and economic resources to which poor non-Hispanic families have less access.

The null main effect in model 2a of *having a child after an interstate migration* appears to result from opposing directions of the effect for whites compared with blacks. For whites, the effect is negative but increases over time, and for blacks, it is large and positive, doubling the odds of TANF receipt ($e^7 = 2.01$), with a decrease in the odds over time. Again, for these groups, having a child in conjunction with interstate migration appears to be economically stressful. The main effect for Hispanics is not significant, indicating that for these families, the likelihood of receiving TANF after having a child following an interstate move is no different from the likelihood for nonmigrants who did not experience a life course change, although the increase over time is greater than for the nonmigrant families. Over the long term, then, a birth after interstate migration is an economically stressful event for Hispanic families also.

Similarly, a null main effect of *having a child before an intrastate move* for all poor and near-poor women appears to result because, for whites and blacks, the effect is negative, while for Hispanics, it is positive. Over time, the likelihood becomes even smaller for whites, while for blacks, it grows larger. For white families, having a baby may be more likely for women anticipating the economic ability to care for a child and this economic well being increases the potential to move to better neighborhoods or larger homes that better accommodate child rearing. For poor black families, having a child may necessitate moving in locally with another family,

which helps financially mostly in the short term. For Hispanic families, an intrastate move followed by a birth indicates a limited ability for, or reliance on, local social networks to offset the economic stress of having a new baby.

Only *having a child after an intrastate move* has a main effect that is consistently positive across racial/ethnic groups, although the increase in the odds is larger for blacks than for others ($e^{.12} = 1.13$ versus $e^{.03} = 1.03$). This also is the only childbearing/migration combination having a significantly different effect from the migration alone and the childbearing event alone, indicating that it is the combination of events which results in greater need for public assistance. For all groups, without migration, the odds of TANF receipt decrease with time after the child is born; for non-black families, after interstate migration followed by childbearing, the odds of TANF receipt increases.

Becoming Single Before and After Migration

Only among whites does *becoming single and subsequently relocating to a different state* influence the likelihood of TANF receipt after the move. This group is around 3 percent less likely to receive welfare compared with nonmigrants without a life course change, while nonmigrants who became single are 2 percent more likely to receive TANF. Furthermore, this likelihood declines with time after the migration. Consistent with traditional microeconomic migration theory, this finding suggests interstate migration serves as a strategy for improving economic well being among recently divorced women.

Conversely, *becoming single after an interstate migration* increases the odds of welfare receipt and these odds grow significantly over time after the divorce/separation. This effect appears to be driven mainly by the experiences of white women's families, although the direction of the

effect for black families is generally consistent. While becoming single and not migrating also increases TANF participation, in this case, the odds of receipt declines significantly over time after family disruption. These findings imply that becoming single after an interstate migration may leave women without the social support systems that help them avoid public aide.

Results for intrastate migration provide clear indication that in-state moves before and after divorce/separation have different meanings for black and non-black families. *Becoming single and then moving within state* significantly decreases the odds of TANF receipt over time after the move for whites and Hispanics. For blacks, these circumstances increase the likelihood of welfare receipt almost 20 percent ($e^{.17} = 1.19$), and this effect does not change over time.

Non-blacks who *became single after an intrastate move* were more likely than nonmigrants to receive welfare. In contrast, blacks were less likely to participate in welfare under this circumstance, and for blacks and whites, this likelihood declines significantly over time after the divorce.

Becoming Married Before and After Migration

Overall, *becoming married before or after migration* reduces the likelihood of TANF receipt initially but increases it over time. The exception is when the *marriage is followed by interstate migration* – under this circumstance, the odds of TANF receipt increase initially and then decrease over time after the migration. As for nonmigrants who married, the negative effect of stringent two-parent TANF eligibility policies offsets the positive influences of marriage combined with migration. Furthermore, the significant interaction effect for “marriage before interstate migration” by “stringent two-parent policy” demonstrates that only in states with lenient policies does marriage followed by interstate migration increase the likelihood of TANF receipt. Figure 1

illustrates this finding by graphing the likelihood of TANF receipt for families who experienced a marriage and then moved to a state with most lenient, average, and most stringent two-parent policies.

Importantly, all estimates for marriage combined with migration, including change over time for these effects, are significantly different from effects of marriage among nonmigrants and from effects of migration with no life course event. For the most part, this finding indicates that migration improves economic well being for recently married poor and near-poor female headed families. Also, the finding that interstate migration increases welfare participation when it follows marriage only for those moving to states with lenient two-parent family TANF eligibility rules indicates migration as a strategy for increasing access to financial resources for poor families.

Summary of Results

In sum, migration alone has no influence on TANF participation for poor and near-poor families generally. Only when migration is combined with marriage, follows having a child, or precedes separation/divorce does it significantly influence TANF receipt. Table 3 outlines which migration and life course events increase or decrease the likelihood of TANF receipt overall. Importantly, only where statistically significant interaction-equivalent effects are shown can we say that migration has an influence above and beyond the effect of the life course transition. In no case does having a child or becoming single decrease welfare participation. Marriage decreases welfare participation for poor families only when combined with intrastate migration and when it occurs subsequently to interstate migration.

These effects vary for families headed by non-Hispanic white, black, and Hispanic women. Table 4 outlines these differences. For instance, with no migration, having a child increases

welfare participation for all families, but interstate migration reduces the impact of a birth for white and Hispanic families; for black families, this combination of events increases welfare participation. Childbearing followed by intrastate migration decreases receipt only for black and white families and increases it for Hispanics. Becoming a single-mother-headed family also increases the likelihood of welfare participation for all families, but for white families that experience divorce/separation, subsequently moving to another state offsets this negative effect. If the family disruption follows an interstate migration, however, white families are more likely to participate in TANF. Interstate migration appears not to help or hurt minority families that become single-mother-headed; for black and Hispanic families, intrastate migration plays a more important role.

The increased likelihood of TANF receipt among black and white female heads who married and then moved to another state suggests either that married couples may move to states providing benefits to two-parent families, or in the case of white married couples, that they may be more likely to separate after moving. We find this effect is explained by state two-parent TANF eligibility policy stringency. Marriage without migration decreases welfare receipt only for white families, indicating the importance of relocation to economic opportunities for minority married-couple family well being.

CONCLUSION

A key argument of this paper is that life course theory of migration requires the conceptualization and measurement of family life events (transitions instead of family structure), and that family life course and migration events interact to provide new knowledge about the economic well-being of families after they move. This thrust goes beyond the social mobility thesis

of migration behavior from microeconomic theory. We further argue that the timing of family life course events immediately before or after migration matters for family TANF receipt, that these effects may differ for interstate (more distant) and intrastate (more local) migrations, and that these influences differ by race and ethnicity. Congruent with life course theory, we explicitly focus on the family as the unit of analysis, investigating TANF participation of the families of female heads, rather than on the after-move economic well-being of individual male and female members of the family.

Several major conclusions emerge from the regression results about how family life course and migration events interact to provide new insights about family TANF receipt after a move. First, while neither interstate nor intrastate migration generally has an impact on family TANF participation, the three family life course events have the expected impact, and in several cases, interaction-equivalent effects of migration plus life course change are attributed to the life course transition.

Becoming married reduces the likelihood of subsequent family TANF receipt, except when it is followed by interstate migration, or for Hispanics, preceded by intrastate migration. Of course, the transition to marriage increases the number of workers in some families with resulting higher average family income and reduced family poverty. In addition, Waite's (1995) analysis of the benefits of marriage points out that net the effect of characteristics which select people into marriage (and migration), marriage promotes career development for men by increasing expectations and incentives to work and enhancing productivity. These motivations may be common to both planned marriage and planned migration events, with the resulting positive impacts on family economic well-being. Nevertheless, labor market disadvantages faced by

minority compared with white families may explain why marriage itself does not reduce TANF participation. We conclude that the contradictory positive effects of marriage followed by interstate migration on TANF receipt can mostly be explained by state policies regarding the welfare eligibility of two-parent families. This finding suggests that poor black and non-Hispanic white couples who live in relatively stringent-policy states migrate after marriage to states where they are more easily eligible for welfare benefits, providing some conditional support for the welfare migration thesis that the promise of welfare benefits “pulls” migrants from less generous places. This finding does not apply to Hispanics, however, more of whom are likely to be immigrants. Separate rules regarding immigrant TANF eligibility may explain why the two-parent rules carry no weight when it comes to their welfare participation.

Regarding the increase in TANF receipt for the families of poor white women who divorce after interstate migration, the dominant migration literature findings of negative short-term effects of migration on married female employment (Clark and Huey 2006, Mulder and van Ham 2005, Cooke 2003, LeClere and McLaughlin 1997, Spitze 1984) imply that if married couples who move to another state are more likely to separate subsequent to the migration, the need for family TANF participation may be greater for this group. In contrast, the negative result of becoming single (i.e., separation/divorce) followed by interstate migration on family TANF receipt indicates that the newly single migrate to other states for better job opportunities rather than for welfare. Importantly, the harmful effect of becoming single (i.e., the positive effect of becoming single on TANF participation) is not exacerbated by interstate migration beyond the effect of family disruption among nonmigrants.

On balance our results for childbirth and interstate migration show that it is the addition of a

child to the family, and not the added influence of migration, which significantly increases the likelihood of TANF receipt. Although migration may enhance family stress that comes with childbirth, the need for adaptive behaviors in work and family life resulting from the additional family member appear to be the factor that disrupts employment and income growth, with a resulting potential for family poverty. Interstate migration per se neither alleviates nor exacerbates the childbirth effect.

We conclude that these frequently opposite-sign findings on the interactions between family life course events and migration advance the migration literature on the post-move TANF participation of families. The importance of these results is enhanced by controls for factors selecting families to migrate, and by the fact that they are not mediated (explained away) by the alternative hypothesis of state job growth and unemployment or welfare policy contextual effects.

A second major finding concerns type of geographic mobility. Do longer distance interstate or shorter distance intrastate moves interact with life course events to produce more negative or positive effects on post-move family TANF receipt? Our results show that shorter distance intrastate migration has a positive life course event interaction impact on family economic well-being (i.e., a negative effect on TANF receipt) only after a marriage, while the influence of longer distance interstate moves after a marriage is to increase the likelihood of TANF receipt. In addition, a shorter distance move followed by divorce or separation increases the likelihood of TANF receipt, whereas longer distance moves followed by family disruption can be attributed solely to becoming single-mother-headed. The same is found when migrations are followed by childbirth. Although our results are consistent with latent theoretical motivations for interstate and intrastate migration that include social mobility (Mincer 1978) and housing/neighborhood

adjustment, respectively, future research is needed to increase understanding of the process in which childbearing and divorce/separation after a short-migration increases family risk of welfare participation.

Third, understanding the causal order of life course and migration events is fundamental to advancing migration theory. Mulder (1993) argues that the direction in most cases goes from family life course events to migration, and our results are somewhat consistent with her line of reasoning. The data and methodology used in our study permit us to go beyond most past migration research in testing this argument by specifying the impacts of family life course events before and after migration in a causal-order-correct analysis of family welfare receipt. Our results provide qualified support for Mulder's causal order logic in that when certain family life course events, notably childbearing and separation/divorce, precede migration, post-move family TANF receipt is influenced by the life course change, and not by the migration event. However, when these family life course events follow intrastate migration, the post-move family TANF outcome is related to the migration/event combination. In the case of marriage, the migration choice after the formation of the union appears to be motivated by lenient rules regarding two-parent family TANF eligibility in destination states. These findings are consistent with the life course agency perspective, in which planful competence results in the active process of selecting appropriate interpersonal, institutional, and organizational relationships such that well being is maximized (Clausen, 1991). In summary, both the life course event itself and its causal order with migration behavior affect whether families fare better or worse in their well being.

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Table 1. Percentages (weighted) of Poor Female Family Heads Who Experienced Family Life Course Events, Before and After Migration Compared with No Migration (unweighted $n = 8,517$)

<i>Family Life Course Events & Migration Behaviors</i>	<i>Interstate Migrant (n = 433)</i>		<i>No Interstate Migration (n = 8084)</i>	<i>Intrastate Migrant (n = 2239)</i>		<i>No Intrastate Migration (n = 6,278)</i>
Percent of Total	5.82%		94.18%	23.88%		76.12%
	<u>Before</u>	<u>After</u>		<u>Before</u>	<u>After</u>	
Got Married	4.45%	8.20%	8.18%	3.54%	12.08%	6.18%
Became Single	2.17%	8.12%	6.77%	3.78%	5.62%	6.21%
Had a Birth	4.41%	4.72%	5.14%	6.33%	2.90%	4.16%
Interstate Migrant	100.00%		0.00%	14.96%		2.96%
Intrastate Migrant	61.32%		21.56%	100.00%		0.00%
Attrition	9.27%		2.98%	1.12%		4.04

Table 2. Fixed-Effects Coefficients from Growth Curve Logit Model Regressing Family Welfare Receipt on Migration, Life Course Events, and Individual/Family Characteristics
(person months)

Variables	Model 1 (n=277,262)	Model 2a (n=277,262)	Model 2b Non-Black, Non- Hispanic Women (n =138,241)	Model 2c Black Women (n =77,717)	Model 2d Hispanic Women (n =61,304)
Migration and Life Course Events					
(Ref=No Migration, No Life Course Event)					
No Migration					
Became Single	0.04**	0.04**	0.02**	0.07**	0.04**
Became Married	-0.00	-0.00	-0.03**	0.03**	0.03**
Had Child	0.05**	0.05**	0.02**	0.06**	0.08**
Interstate Migration					
No Life Course Event	0.01	0.01	0.00	0.03	-0.01
Became Single before Move	-0.02	-0.03	-0.03**	-0.04	0.02
Became Married before Move	0.17**	0.16** ^a	0.14**	0.16**	-0.09*
Had Child before Move	0.02	0.04*	0.05**	0.33**	-0.14**
Became Single after Move	0.03	0.03*	0.06**	0.12	-0.03
Became Married after Move	-0.12**	-0.12** ^a	-0.07**	ne	-0.24**
Had Child after Move	0.03	0.03	-0.07**	0.70**	-0.01
Intrastate Migration					
No Life Course Event	-0.00	-0.00	-0.00	-0.01	0.002
Became Single before Move	0.01	0.01	-0.01	0.17**	-0.03
Became Married before Move	-0.09**	-0.09** ^a	-0.04**	-0.24**	-0.23**
Had Child before Move	-0.01	-0.01	-0.07**	-0.06**	0.11**
Became Single after Move	0.03**	0.03** ^a	0.01	-0.04*	0.10**
Became Married after Move	-0.03**	-0.03** ^a	-0.05**	0.04	0.08**
Had Child after Move	0.06**	0.05** ^a	0.03**	0.12**	0.02
Interactions of Time with:					
Became Single, No Migration	-0.001**	-0.001**	-0.001*	-0.002**	-0.002**
Became Married, No Migration	0.001**	0.0001**	0.001**	0.001	0.001
Had Child, No Migration	-0.001**	-0.001**	-0.002**	-0.002	-0.001
No Life Course Event, Interstate Migration					
Became Single before Move, Interstate Migration	-0.003**	-0.004**	-0.003	-0.002	-0.01**
Became Married before Move, Interstate Migration	-.009**	-0.01** ^a	-0.01**	-0.02*	-0.004
Had Child before Move, Interstate Migration	0.004**	0.004** ^a	0.003*	0.001	0.00
Became Single after Move, Interstate Migration	0.005**	0.005** ^a	0.004**	0.02	0.01
Became Married after Move, Interstate Migration	0.012**	0.012** ^a	0.008**	ne	0.04**
Had Child after Move, Interstate Migration	0.002	0.002	0.007**	-0.08**	0.01*
No Life Course Event, Intrastate Migration					
Became Single before Move, Intrastate Migration	-0.003**	-0.003** ^a	-0.004**	0.001	-0.004*
Became Married before Move, Intrastate Migration	.011**	0.011** ^a	0.007**	0.02**	0.02**

Variables	Model 1 (n=277,262)	Model 2a (n=277,262)	Model 2b Non-Black, Non- Hispanic Women (n =138,241)	Model 2c Black Women (n =77,717)	Model 2d Hispanic Women (n =61,304)
Had Child before Move, Intrastate Migration	0.000	0.000	-0.003**	0.01**	-0.002
Became Single after Move, Intrastate Migration	-0.003**	-0.003** ^a	-0.004**	-0.01**	0.001
Became Married after Move, Intrastate Migration	0.002**	0.002** ^a	0.002**	0.003	0.01**
Had Child after Move, Intrastate Migration	-0.005**	-0.005**	-0.005**	-0.003*	-0.01**
State Economic & Policy Characteristics					
Job Growth	0.08	0.08	0.22*	-0.29	0.15
Unemployment Rate	0.02**	0.02**	0.02**	0.03**	0.01**
Stringency of Work-related Activities Requirements	0.004*	0.004**	0.01**	-0.02**	0.01*
Stringency of Noncompliance Penalties	-0.01**	-0.01**	0.003*	-0.03**	-0.001
Stringency of Time Limits & Exemptions	-0.001	-0.002	-0.01**	0.003	-0.001
Stringency of Two-Parent Family Eligibility Rules	-0.003**	-0.003**	-0.002	-0.01**	-0.002
Interaction of Two-Parent Eligibility Stringency with Became Married before Move, Interstate Migration		-0.01**	-0.10**	-0.10	-0.04
Fit Statistics (smaller is better)					
AIC	-19822.2	-19833.3	-31186.4	16952.55	-11834.6
BIC	-19808.1	-19819.3	-31173.7	16964.12	-11823.5

* $p \leq .05$ ** $p \leq .01$

Note: Models include duration, race/ethnicity, age, gender and marital status, educational attainment, and return migration indicators (coefficients available upon request).

^a Significantly different ($p \leq .01$) from same type of migration (inter- or intrastate) with no life course event and from same life course event with no migration.

ne = not estimated

Table 3. Which Migration and Life Course Transitions Increase and Decrease Family Welfare Receipt?

Migration & Life Course Transition	Increase in Welfare Receipt	Decrease in Welfare Receipt
Migration	No effects	No effects
Having a Child	Having a child without migration Having a child before interstate migration Having a child after intrastate migration*	No effects
Becoming Single	Becoming single without migration Becoming single after interstate migration Becoming single after intrastate migration*	No effects
Becoming Married	Marriage before interstate migration in states with lenient two-parent TANF eligibility policy*	Marriage after interstate migration* Marriage before or after intrastate migration*

*Statistically significant interaction, $p \leq 0.01$.

Table 4. Differences in the Effects of Migration and Life Course Transitions on Family Welfare Receipt for Poor Black, Hispanic, and White Women.

Migration & Life Course Transition		Increases Receipt For:	Decreases Receipt For:
Had a Child			
No Migration		Black, Hispanic, White	-
Before	Interstate	Black, White	Hispanic
Migration			
After Interstate Migration		Black	White
Before	Intrastate	Hispanic	Black, White
Migration			
After Intrastate Migration		Black, White	-
Became Single			
No Migration		Black, Hispanic, White	
Before	Interstate	-	White
Migration			
After Interstate Migration		White	-
Before	Intrastate	Black	-
Migration			
After Intrastate Migration		Hispanic	Black
Became Married			
No Migration		Black, Hispanic	White
Before	Interstate	Black, White^a	Hispanic
Migration			
After Interstate Migration		-	Hispanic, White
Before	Intrastate	-	Black, Hispanic, White
Migration			
After Intrastate Migration		Hispanic	White

^aExplained by state two-parent TANF eligibility policy.

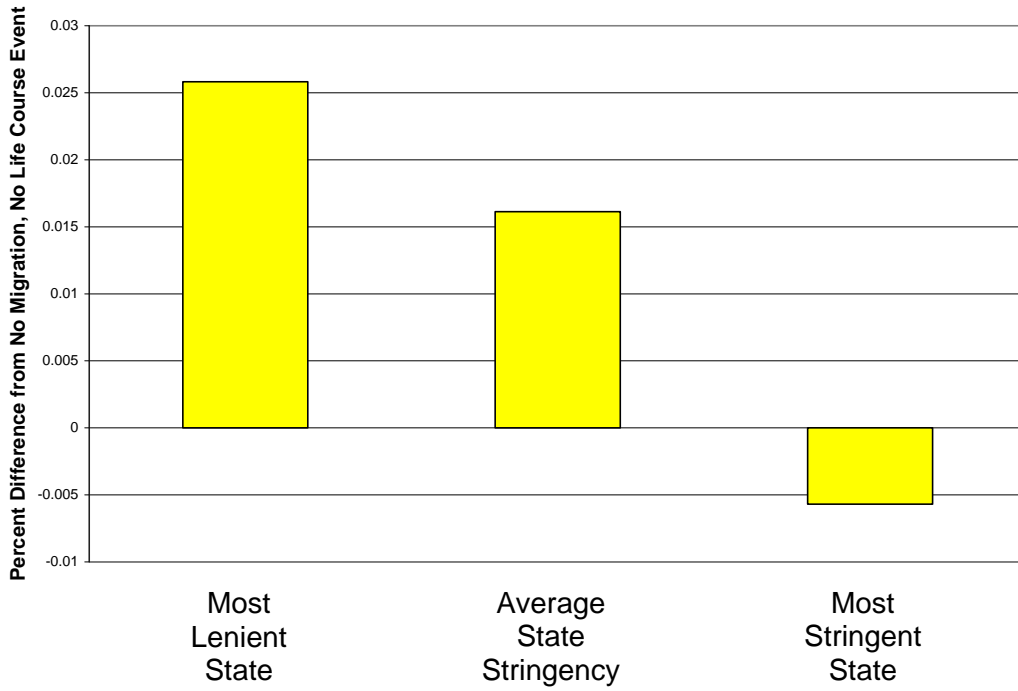


Figure 1. Percent difference in the odds of TANF receipt for families experiencing a marriage before interstate migration, by state two-parent eligibility policy stringency.

Table A1. Descriptive Statistics for Study Observation Months (weighted person-months), by Migration and Life Course Event.

	Total	Nonmigrant				Interstate Migrant								Intrastate Migrant					
		No Event	Had Birth	Became Single	Became Married	No Event	Had Birth Before	Had Birth After	Became Single Before	Became Single After	Became Married Before	Became Married After	No Event	Birth Before	Birth After	Became Single Before	Became Single After	Became Married Before	Became Married After
Number of persons (unweighted)	8,517	4,449	354	1,243	322	245	32	18	51	75	39	22	1,448	130	116	118	354	78	202
Person-months in category	277,262	206,816	9,051	10,737	6,250	5,209	477	189	779	355	511	206	37,030	2,512	1,647	1,709	3,153	1,249	2,812
Received TANF (%)	16.1	16.1	20.8	8.8	9.4	10.5	5.0	12.7	4.6	6.5	13.9	4.4	18.3	21.6	19.3	10.9	14.4	10.1	12.0
Race/Ethnicity (%)																			
Non-black, non-Hispanic	49.9	48.1	44.1	54.8	55.1	69.7	69.2	61.9	65.9	80.6	63.6	81.6	56.7	48.3	53.7	74.6	63.0	69.9	69.8
Black	22.1	29.7	30.9	17.7	22.0	14.5	5.2	11.6	10.5	4.5	19.4	0	23.9	27.5	24.7	9.8	15.5	17.6	19.0
Hispanic	28.0	22.2	25.1	27.5	22.9	15.8	25.6	26.5	23.6	14.9	17.0	18.5	19.4	24.2	21.6	15.6	21.5	12.5	11.2
Education																			
< High School	37.4	38.1	32.3	41.0	30.9	21.8	19.7	12.2	28.6	9.9	20.3	27.2	35.6	42.5	28.0	39.2	31.8	27.5	25.0
High School	52.0	51.3	59.2	49.1	56.5	60.0	10.7	67.2	63.9	83.4	67.7	54.4	53.5	47.2	50.7	54.0	59.6	65.2	59.1
> High School	10.7	10.7	8.4	9.9	12.6	18.2	9.6	20.6	7.5	6.8	11.0	18.5	10.9	10.3	21.3	6.8	8.7	7.4	16.0
Average Poverty																			
Overall	0.86	0.85	0.81	0.90	0.91	0.82	0.89	0.82	1.0 (0)	0.98	1.0 (0)	1.0 (0.2)	0.8 (0.4)	0.8 (0.4)	0.9 (0.3)	0.9 (0.3)	0.9 (0.2)	0.9 (0.3)	0.9 (0.2)
Pre-Migration	(0.3)	(0.3)	(0.4)	(0.3)	(0.3)	(0.4)	(0.3)	(0.4)	1.4 (0.8)	(0.2)	0.9 (0.5)	0.9 (0.5)	0.9 (0.6)	0.8 (0.5)	0.9 (0.6)	1.1 (0.6)	1.1 (0.6)	0.9 (0.5)	1.0 (0.7)
Post-Migration	0.92	-	-	-	-	0.97	1.0 (0.7)	1.1 (0.6)	1.0 (0.6)	1.44	1.7 (1.3)	1.2 (0.7)	0.9 (0.6)	0.9 (0.6)	0.9 (0.5)	0.9 (0.5)	0.9 (0.5)	1.3 (0.6)	1.2 (0.7)
	(0.6)	-	-	-	-	(0.7)	0.90	0.82	1.0 (0.5)	(1.0)									
	0.96					0.94	(0.4)	(0.6)											
	(0.6)					(0.6)													
Age	36.2	37.2	28.8	39.3	33.1	32.6	27.4	26.4	34.9	30.8	28.8	33.7	33.4	27.4	28.9	34.3	30.8	30.8	29.8
	(11.7)	(12.0)	(7.9)	(11.4)	(10.0)	(10.8)	(4.7)	(4.4)	(10.9)	(8.3)	(8.9)	(11.7)	(10.1)	(5.7)	(7.0)	(8.9)	(7.3)	(7.7)	(8.3)
Job Growth in State of Residence	.02 (.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.01 (0.01)	0.02 (0.01)	0.02 (0.02)	0.02 (.01)	0.01 (0.01)	0.02 (0.01)	0.01 (.01)	0.02 (0.0)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (.01)	0.02 (.01)
Unemployment Rate in State of Residence	5.2 (1.1)	5.2 (1.1)	5.2 (1.0)	5.2 (1.0)	5.1 (1.0)	5.0 (1.1)	4.6 (1.3)	5.0 (0.8)	5.0 (0.9)	4.8 (1.1)	5.0 (1.2)	5.3 (1.3)	5.1 (1.1)	5.2 (1.1)	4.8 (1.1)	5.0 (1.0)	5.1 (1.1)	5.1 (1.1)	5.1 (1.1)
Stringency of TANF Eligibility Rules Regarding:																			
Work-related Activities Requirements	0.08 (0.9)	0.11 (0.9)	0.02 (0.9)	-0.02 (0.9)	-0.07 (0.9)	-0.00 (0.9)	-0.08 (0.9)	-0.16 (0.8)	-0.12 (0.9)	-0.02 (1.0)	0.08 (0.9)	-0.24 (0.8)	0.05 (0.9)	0.01 (0.9)	-0.05 (0.9)	0.06 (0.9)	0.06 (0.9)	0.03 (1.0)	0.01 (1.0)
Noncompliance Penalties	-0.24 (1.1)	-0.24 (1.1)	-0.22 (1.1)	-0.26 (1.2)	-0.21 (1.1)	-0.19 (1.2)	0.09 (0.9)	0.26 (1.0)	-0.39 (1.3)	0.01 (1.1)	-0.26 (1.1)	-0.50 (1.0)	-0.24 (1.2)	-0.11 (1.1)	-0.09 (1.2)	-0.44 (1.2)	-0.19 (1.2)	-0.09 (1.1)	-0.28 (1.2)
Time Limits & Exemptions	-0.21 (1.1)	-0.28 (1.1)	-0.10 (1.1)	0.06 (0.9)	0.08 (0.9)	0.05 (1.0)	0.18 (1.0)	0.47 (0.6)	0.01 (0.9)	0.28 (0.7)	-0.11 (1.1)	-0.05 (0.7)	-0.04 (1.0)	0.05 (1.0)	0.19 (1.0)	0.05 (0.9)	0.03 (0.8)	0.24 (0.8)	0.06 (0.9)
Two-Parent Families	0.13 (1.0)	0.17 (1.0)	0.11 (1.0)	0.04 (1.0)	0.07 (1.0)	-0.07 (0.9)	-0.30 (0.8)	-0.06 (0.8)	-0.12 (0.9)	-0.20 (0.8)	0.08 (0.1)	0.13 (1.0)	0.03 (1.0)	0.03 (0.9)	-0.04 (0.9)	0.01 (0.9)	-0.04 (0.9)	-0.004 (0.9)	0.11 (1.0)

Table A2. Percentage of Person-months in which Migration and Life Course Event Categories Overlap, by Migration and Life Course Transition Group.

Migration/Life Course Transition	Migration/Life Course Transition Group											
	Birth after Interstate Migration	Birth before Interstate Migration	Single after Interstate Migration	Single before Interstate Migration	Marriage after Interstate Migration	Marriage before Interstate Migration	Birth after Intrastate Migration	Birth before Intrastate Migration	Single after Intrastate Migration	Single before Intrastate Migration	Marriage after Intrastate Migration	Marriage before Intrastate Migration
Birth after Interstate Migration	100	0	5.4	3.9	0	9.3	10.2	0	0.63	0	0.04	1.9
Birth before Interstate Migration	0	100	17.1	19.3	0	10.0	8.2	7.8	2.5	0.77	0.05	1.3
Single after Interstate Migration	8.9	13.1	100	0	13.7	19.7	0.06	2.5	9.1	0.29	2.7	0.37
Single before Interstate Migration	13.0	14.2	0	100	15.4	23.4	1.2	1.1	5.5	15.0	1.0	4.5
Marriage after Interstate Migration	0	0	5.8	3.3	100	0	0	0	1.1	0	5.3	0
Marriage before Interstate Migration	18.2	9.0	23.2	13.7	0	100	1.2	0.53	2.8	1.1	6.7	10.0
Birth after Intrastate Migration	80.1	29.7	0.27	2.8	0	4.9	100	0	6.5	1.6	10.9	2.6
Birth before Intrastate Migration	0	41.3	17.1	3.8	0	3.1	0	100	11.1	2.5	6.5	12.5
Single after Intrastate Migration	9.1	16.4	79.0	23.7	22.6	20.6	11.8	13.8	100	0	24.1	19.5
Single before Intrastate Migration	0	2.8	1.4	35.2	0	4.2	1.6	1.7	0	100	3.0	19.2

Intrastate Migration Marriage after	0.44	0.25	18.4	3.4	84.5	38.2	15.5	6.3	18.8	4.2	100	0
Intrastate Migration Marriage before	8.7	2.8	1.0	6.3	0	23.8	1.5	5.1	6.3	11.5	0	100
