Mixed-Status Families and WIC Uptake: The Effects of Risk of Deportation on Program Use*

Edward D. Vargas, *University of Wisconsin–Madison
Maureen A. Pirog, *Indiana University and University of Johannesburg

Objective. Develop and test measures of risk of deportation and mixed-status families on women, infants, and children (WIC) uptake. Mixed-status is a situation in which some family members are U.S. citizens and other family members are in the United States without proper authorization. Methods. Estimate a series of logistic regressions to estimate WIC uptake by merging data from the Fragile Families and Child Wellbeing Survey with deportation data from U.S. Immigration Customs and Enforcement. Results. The findings of this study suggest that risk of deportation is negatively associated with WIC uptake and among mixed-status families; Mexican-origin families are the most sensitive when it comes to deportations and program use. Conclusion. Our analysis provides a typology and framework to study mixed-status families and evaluate their usage of social services by including an innovative measure of risk of deportation.

Government policies concerning unauthorized immigrants are among the mostly hotly debated topics in the United States. Opponents of generous government policies toward unauthorized migrants point to fiscal burdens, border security, cultural-linguistic barriers, and respect for the law of the land. Proponents of more generous or lenient policies, on the other hand, argue for expansion of the labor supply, human rights, and family reunification. Caught in the middle of these opposing perspectives are a sizable number of mixed-status families in which some, but not all, members of the family are U.S. citizens by birthright or naturalization while other members are in the country without proper legal authorization.

According to the Pew Hispanic Center, of the 4.3 million babies born in the United States in 2008, 8 percent or 340,000 of these children were born into mixed-status families (Passel, 2010). One explanation for this increase is an indirect consequence of immigration enforcement. For example, as the cost of unauthorized travel between Mexico and the United States has increased, this has indirectly caused undocumented workers to remain in the United States longer and ultimately increases their chances of having a child born in the United States.

Aside from sheer numbers, the need to study mixed-status families and their use of U.S. social services is important for several reasons. First, from a civil liberties perspective, mixed-status families are voiceless and a vulnerable population in our society. While unauthorized

*Direct correspondence to Edward D. Vargas, Center for Women’s Health and Health Disparities Research, Warf Office Building, Room 1007b, 614 Walnut St. (edward.vargas@gmail.com). Edward D. Vargas was supported by a NICHD training grant to the University of Wisconsin-Madison (T32HD049302). Research reported in this publication was supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) of the National Institutes of Health under award numbers R01HD36916, R01HD39135, and R01HD40421, as well as a consortium of private foundations. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The authors would like to thank Javier Barrera for his technical support on the mixed-status family typology.

SOCIAL SCIENCE QUARTERLY
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DOI: 10.1111/ssqu.12286
parents live in the “shadows” of our society, the children do have standing (in a traditional cost-benefit analysis framework) and are protected under the 14th Amendment. “All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside . . . .” Second, children in mixed-status families are at risk and precisely the types of clients targeted by many social services focused on reducing poverty. Research on children of immigrants from Mexico and Central America documents that these children are particularly disadvantaged, relative to both other immigrant children and native-born white children, on measures of poverty, social economic status, parental employment, and parental education (Hernandez, Denton, and McCarntey, in press). Third, social exclusion (i.e., lack of access to a state identification card, bank accounts, and social services) has been strongly linked to low levels of cognitive ability for children in mixed-status households (Yoshikawa, Godfrey, and Rivera, 2008). To the extent that these young people remain in the United States, public policies can serve to either enhance or diminish their eventual contributions to the U.S. economy.

In short, this is the first study to examine risk of deportation on federally funded social program take-up rates among mixed-status families in the Personal Responsibility Work Opportunity Reconciliation Act (PRWORA) environment. Lack of research in this area has been mostly attributed to the fact that it is difficult to identify and collect data on undocumented immigrants and even if the data were available, this population is restricted from participating in most federal programs. Because Women, Infants, and Children (WIC) provides services to mixed-status families, WIC provides an exception to the general exclusion of services to this population and allows us to assess take-up rates as well as isolate the effect risk of deportation has on willingness to apply for benefits. In this research, we use the Census Bureau’s methodology to impute an individual’s status as documented or undocumented. We then apply this methodology in the Fragile Families data set as this nationally representative data set focuses on low-income, vulnerable households in which mixed-status families are likely to be overrepresented. Additionally, the Fragile Families sampling strategy required that the focal child in the survey be born in the United States—making them eligible for all social services provided that they meet program eligibility requirements.

Because mixed-status families are somewhat unique relative to most social service recipients, we expand the typical take-up model to consider two key variables of interest that are particularly relevant to this population: anti-immigrant legislation that can contribute to a “chilling” environment for undocumented workers as well as the risk of deportation. For the former variable, we coded state legislation and legislative attempts for anti-immigrant content and for the latter variable we submitted a Freedom of Information Act request to Homeland Security to secure the necessary information to compute deportation risks, although this information has subsequently been made available online.

We fully recognize that there is likely to be considerable confusion about WIC eligibility among immigrants and mixed-status families. The immigrant population is diverse as it encompasses lawful permanent residents, refugees, victims of human trafficking and their “derivative beneficiaries,” as well as up to 8 million immigrants who could be eligible for federal Deferred Action for Childhood Arrivals (DACA) and President’s Obama’s new 2014 Executive Order Deferred Action for Parents of Americans and Lawful Permanent Residents (DAPA). Additionally, the federal government allows states the discretion to expand eligibility for some social programs, at state expense. Hence, there is considerable cross-state variability in eligibility. This complex environment has also led to confusion among some program administrators and operators who have mistakenly turned away
some eligible immigrants from services (Broder and Blazer, 2011). The value-laden and politically charged debates have confused many non-Hispanic Americans, 30 percent of whom mistakenly believe that the majority of Latinos in the United States are undocumented (NHMC, 2012). Our models of WIC take-up reflect this current political and policy environment, not a simpler environment of across-the-board inclusion or exclusion.

**Background**

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) was the first real attempt to restrict benefits to immigrants, radically altering the policy environment for services. Under the PRWORA (P.L. 104-193) and subsequent laws, eligibility restrictions were enacted to restrict certain programs to legal immigrants and deny access by unauthorized migrants to most federally funded government programs.

In general, PRWORA established an official distinction between “qualified” and “unqualified” aliens. Qualified aliens are those who have legal permanent residency and/or refugee status. Unqualified aliens are unauthorized migrants who are residing in the United States without proper documentation. While qualified aliens are eligible for some federal benefits, unqualified immigrants are denied most federal benefits, including, among others, Temporary Assistance to Needy Families (TANF); Medicare, Medicaid, state Child Health Insurance Programs (CHIP); Supplemental Security Income (SSI); and the Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps).

In the post-PRWORA era, some eligibility criteria have been expanded to again include unauthorized immigrants. For example, benefits have been reinstated for emergency medical treatment (under the Emergency Medical Treatment and Labor Act of 1986), which includes testing and treatment of communicable diseases. Other benefits that have been reinstated since PRWORA include short-term, noncash, and in-kind emergency disaster relief, such as food and short-term housing. Unauthorized migrants have always been eligible for many community programs and services such as drug rehabilitation, education, HIV/AIDS testing, and counseling for AIDS/HIV.

Moreover, K–12 education has always been available to unauthorized migrants although this was contested unsuccessfully in Texas (Plyer v. Doe, 1982). Additionally, unauthorized children have been able to take advantage of the federally subsidized school lunch and breakfast programs. Other nutritional assistance programs that unauthorized migrants can access include the Child and Adult Care Food Program (CACFP), Summer Food Service Program, Special Milk Program, and WIC. While it is up to state discretion to provide WIC to unauthorized migrants, all states have consistently provided WIC to this population.

Although clearly written in law, in practice, there is great confusion about what state-level benefits are available to both qualified and unqualified immigrants. The fact that the programmatic restrictions can vary from state to state adds to confusion over eligibility for benefits on the part of unauthorized immigrants. This confusion may explain part of the disparity between program availability and program take-up that has been well documented even among documented immigrants (Blau, 1984; Borjas and Trejo, 1999; Borjas and Hilton, 1996; Hu, 1998; Van Hook, Glick, and Bean, 1999). This article

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departs from this earlier stream of research by looking at the effects of other policy levers (deportation risk and anti-immigrant legislative attempts) on the take-up rates of WIC among mixed status families.

**WIC Program and Predictors of Program Use**

WIC was first created as a two-year pilot program in 1972 by an amendment to the Child Nutrition Act of 1966 and was made permanent in 1975. WIC’s mission is to safeguard the health of low-income women, infants, and children who are at risk for poor nutrition. WIC is currently the third largest federally funded food program behind SNAP and the Free School Breakfast and Lunch Programs and is one of the central components of our nation’s food assistance system. As of 2010, WIC enrolled 9.1 million participants of the eligible 14.1 million individuals (USDA Report No. WIC-13-ELIG, 2013). WIC participation has been increasing throughout its history with the exception of a modest decline between 1998 and 2001 and reached up to 9,175,000 Americans (U.S. Department of Agriculture [USDA], 2011).

WIC is administered by the USDA’s Food and Nutrition Service (FNS). To be eligible for WIC, you must be a pregnant or postpartum woman, an infant, or a child up to the age of five. Additionally, individuals must be either income eligible, at or below 185 percent of the federal poverty level, or adjunctively eligible through participation in other programs such as SNAP, Medicaid, or TANF. Finally, individuals must be identified as “nutritionally at-risk” based on a medical or nutritional assessment by a staff physician, nutritionist, or nurse at the local WIC office. Because of our focus on Latino mixed-status families, we additionally note that Latinos make up a substantial percentage of those participating in WIC. In 2009, just under half (45 percent) of WIC participants were of Hispanic origin (USDA Report no. CN-10-NSWP2-R2, 2012).

The likely benefits of WIC participation have been hotly debated. There is a stream of research that supports the notion that “WIC Works.” WIC participation during pregnancy has been associated with higher birth weights, fewer fetal deaths (Kotelchuck et al., 1984; Kennedy, 1982; Rush, 1986; Buescher et al., 1993; Bitler and Currie, 2005), lower maternal and newborn health-care costs (Schramm, 1982, 1985; Devaney, Bilheimer, and Schore, 1992; GAO, 1992), and negatively associated with breastfeeding (Schwartz et al., 1995; Chatterji and Brooks-Gunn, 2004; Ziol-Guest and Hernandez, 2010).

The beneficial effects of WIC have been contested, however. In the “Does WIC Work” debate, Joyce, Gibson, and Colman (2005) argue that beneficial effects of WIC identified by Bitler and Currie (2005) and other researchers resulted from the use of inappropriate measures of the key outcome variables. Once corrected, Joyce, Gibson, and Colman (2005) argue that “WIC Doesn’t Work.” Ludwig and Miller (2005) weighed in on this debate and ultimately determined that in fact “WIC Works.”

While WIC efficacy is important policy issue, our focus is elsewhere. Instead, we investigate whether or not government actions and policies are imposing additional barriers to WIC participation for the large and growing number of mixed-status families. There is a small but solid literature on the determinants of WIC uptake within the eligible population. The general premise is that the decision to enroll in WIC involves a comparison of the benefits and costs of participation, the availability of WIC clinics, and access to other welfare programs.

Neither the WIC application process nor WIC participation is costless. Factors that affect the magnitudes of the benefits and costs include state-level policy levers and state-required
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income verification (Brien and Swann, 2001), as well as the characteristics of eligible participants. At the individual level, women who derive the greatest benefits from WIC should be more willing to bear the costs of program participation (Ludwig and Miller, 2005). WIC participants tend to be more informed, motivated, and entrepreneurial (Devaney, Hilheimer, and Shore, 1992). Particularly among Hispanics, married mothers are more likely to participate in WIC (Bitler, Currie, and Scholz, 2003) relative to unwed Hispanic mothers. Research on WIC has also focused on the timing of enrollment. Ku (1989), for example, finds that early prenatal enrollment is associated with previous participation in WIC. Regarding race and ethnicity, studies show that there are statistical differences of WIC participation. In general, black and Hispanic women and their children were more likely to participate in WIC than their non-Hispanic white counterparts (Bitler, Currie, and Scholz, 2003; Castner, Mabli, and Sykes, 2009; Swann, 2003; Tiehen and Jacknowitz, 2008).

Regarding immigration and WIC participation, there is a small literature on the individual characteristics of immigrants and WIC uptake, yet few studies have tested the role of citizenship. The general findings indicate that among all immigrants, those who lack access to childcare and transportation and who feel a greater stigma from receiving a “hand-out” are less likely to enroll in WIC (Kahler et al., 1992). In comparing WIC uptake across immigrant and native-born mothers, Fomby and Cherlin (2004) find that children of noncitizens participate at higher rates and have longer duration than native-born children, but there are no differences between native-born parents and naturalized citizens. This finding is further confirmed by Fortuny (2010), who shows that there are no significant differences in WIC participation between naturalized U.S. citizens and native-born mothers. In several respects, immigrant women who use WIC are similar to native-born mothers. These mothers are more likely to be racial minorities, unmarried, younger, less educated, and low income (Bitler, Currie, and Scholz, 2003; Castner, Mabli, and Sykes, 2009; Swann, 2003; Tiehen and Jacknowitz, 2008). At the state level, WIC participation rates are lower in states where less information about program eligibility is available (Kahler et al., 1992), and also lower in states that impose higher transaction costs for applying (e.g., no adjunctive eligibility, income verification) (Bitler, Currie, and Scholz, 2003). Participation is also lower in states that have fewer WIC clinics (Bitler, Currie, and Scholz, 2003) and states that have higher unemployment and poverty rates.

There is some older research that predates PRWORA that relates to the impact of state policy levers and the labeling of a “public charge” on social service participation. In other words, there was a rumor that was circulated that if you were labeled a “public charge” on official state documents, you were then ineligible to become a permanent resident, indirectly deterring vulnerable immigrants from using services. Remember that in the pre-PRWORA era, immigrants were eligible for far more government services. Nonetheless, the extent to which policymakers wanted to make social services available to immigrants, including those who entered the country legally, was still hotly debated. As part of this debate, there were legal briefs and academic studies that addressed the impacts of being labeled a “public charge” on social service participation (Johnson, 1995; Schlosberg and Wiley, 1998; Park, 2001; Fix and Haskins, 2002). More recent policy work by Perreira et al. (2012) further discuss the impact of being labeled a “public charge” has had on the use of social services. While “public charge” has been in immigration law for more than 100 years, it was not until the mid-1980s and early 1990s that this highly salient issue overshadowed the conversation leading up to PRWORA, inadvertently causing a chilling effect for needy immigrants, many of whom were legally eligible to access social services. It is in this environment that Blau (1984), Borjas and Trejo (1993, 1999), and
Borjas and Hilton (1996) examined uptake of Aid to Families with Dependent Children (AFDC) among immigrants. These authors found that, *ceteris paribus*, immigrants were less likely than native-born citizens to use AFDC. While initial take-up rates were low in the immigrant population, they increased over time, possibly as the immigrants became increasingly assimilated. Alternatively, the low initial take-up rates may have resulted from the chilling environment from legal initiatives such as Proposition 187 (Asch, Leake, and Gelberg, 1994; Fenton et al., 1997; Berk and Schur, 2001). While this work focuses on AFDC, not WIC, and is pre-PRWORA, the notion of a chilling environment as a result of anti-immigrant legislation and legislative bills is still relevant today.

Risk of deportation as it affects the uptake of social services among undocumented immigrants has received relatively little attention in the literature. What we know so far is that unauthorized immigrants who report high levels of fear (of deportation) are more likely to report an inability to acquire medical and dental care (Berk and Schur, 2001). Asch, Leake, and Gelberg (1994) also report that undocumented immigrants feared going to physicians because they thought that it could lead to trouble with immigration authorities. These undocumented immigrants were almost four times as likely to delay seeking care for more than two months compared to their citizen counterparts. While both of these papers are qualitative and never quantified fear or risk of deportation, these published pieces are the foundation of our theoretical framework and guide our theory on the relationship between risk of deportation and WIC uptake among mixed-status families in the post-PRWORA environment.

**Anti-Immigrant Climate**

While social work research has concentrated on understanding psychological phenome-

al like stigma, we argue that risk of deportation is an additional indicator that is driving the differences between take-up rates and WIC participation for mixed-status families. Fear and risk of deportation can take various forms. One of the most salient signals of anti-immigrant backlash are the proposed English-only laws that spread across the states starting in the 1980s. While the majority of the legislative actions were defeated in states with substantial language minority populations, conservative states and states with mecha-

nisms for direct democracy generally adopted such laws (Citrin et al., 1990; Preuhs, 2005; Tatalovich, 1995). Work by Preuhs (2005) and Tatalovich (1995) estimates that of the 50 states, around half have now adopted official English laws. Arguably, adoption of this law is closely tied to resentment toward racial/ethnic minorities, particularly the foreign born (Schildkraut, 2001). Other anti-immigrant bans that have negatively affected undoc-

dumented families are laws banning the issuance of driver’s licenses, laws banning day laborers sites, and measures that require proof of citizenship to rent or lease an apartment.

While in general deportations have declined since 2001, the recent forms of anti-

immigrant backlash at the local level have been exacerbated by the widespread deportations by Immigrant Customs and Enforcement (ICE) at place of employment. For example, the Department of Homeland Security estimates that under the Obama Administration around 395,000 undocumented immigrants were deported in 2009 (DHS, 2010). As expected, this heightened enforcement has negatively affected the Latino/a community. A poll conducted by the Pew Hispanic Center (2007) shows over half of Latinos worry they, a family member, or close friend can be deported. Moreover, 67 percent of the foreign-born respondents in this same poll feel that they are negatively affected by the increased enforcement and attention to illegal immigration. Moreover, since the enactment of Section
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287(g) of the Immigration and Nationality Act, which legalizes the deputation of local law officials to act as federal immigration law enforcers, deportations have been more visible in the undocumented community. As of 2011, there are agreements with 69 law enforcement agencies in 24 states that have enacted 287(g).

The effects of worksite raids and the enactment of 287(g) has forced undocumented immigrants further into the shadows despite the general trends in deportation after 2001. In general, deportations began to rise after World War II and during the Korean War. Starting in the early 1960s, we witnessed an increase in deportations up to a peak in the mid-1980s. It was in this period in which amnesty was passed under 1986's Immigration Reform and Control Act (IRCA). After a few years after IRCA, the trend continued to steadily rise in the early 1990s, reaching 1,889,000 deportations in 2000 (DHS Yearbook, 2010).

After 2001, deportations began to drop, as the nation's attention focused to the war on terrorism both in the invasion of Afghanistan 2001 and in Iraq 2003. This trend, however, reversed dramatically during the Obama Administration as he overturned President George W. Bush's halt on worksite raids and the implementation of the Secure Communities Program. It is now estimated that under Obama's first administration we have deported over 1,000,000 immigrants, which is more deportations than in George W. Bush's eight years in office.

In addition to federal action, states have been active in passing anti-immigrant legislations that make it unlawful to be in the state without proper documentation. For example, Oklahoma, South Carolina, Arizona, and Alabama have all passed anti-immigrant legislation that is forcing the undocumented to either flee or go further underground. In sum, while the number of deported aliens reached an all-time high in 2009, the presence of local foot soldiers has caused an increased climate of fear and risk of deportation among undocumented immigrants living in the interior.

While there are undocumented immigrants from every corner of the world, deportations naturally affect Mexican immigrants disproportionally. In 2005, for example, around 88 percent of the 791,568 immigrants deported from the United States were from Mexico (DHS, 2006). This of course is largely a function of the flow of undocumented aliens from Mexico and our historical relationship with our southern neighbor. What is not clear is of those deported, how many of these unauthorized migrants have children who are American citizens. Thus far, the Urban Institute has produced the only study that has focused on the outcomes of immigration raids. The study found that of the 900 unauthorized immigrants detained in 2007 worksite raids, over 500 children were affected (The Urban Institute, 2006). As noted by the study, the majority of these children were in fact U.S. citizens.

What has yet to be tested is how risk of deportation affects the likelihood of a mixed-status mother’s use of social services? One can argue that as the anti-immigrant sentiment increases this then can lead a mixed-status mother to decide not to participate in a government program for which her child is eligible. In sum, this is the first empirical analysis to disaggregate mixed-status mothers and quantify risk of deportation on the probability of social service take-up in mixed-status families.

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2Officially passed under the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, but states did not really start adopting 237(g) agreements until 2008.

3Secure Communities was adopted in 2008 to focus on the removal of the most dangerous undocumented aliens. This program is a collaboration between local law officials, the Federal Bureau of Investigation (FBI), and ICE to double-check fingerprints of persons detained in local jails. The unintended consequences have been the deportation of aliens who have committed minor traffic violations and mothers who have U.S.-born children.
Methodology

The main question in this study is how risk of deportation ($\Gamma$) in mixed-status (M) families affects the probability of WIC uptake. To test this question, we will estimate a series of logistic regressions with data from the Fragile Families and Child Wellbeing Study. The final model is as follows:\(^4\)

$$WIC_i = M_i \beta_1 + \phi_i \beta_2 + \Gamma_i \beta_3 + \Delta_i \beta_4 + X_i \beta_5 + \varepsilon_i,$$

where $M$ is family categories; $\phi$ is legislative threat; $\Gamma$ is risk of deportation; $X$ is vector of mother-specific characteristics (age, education, marriage status, number of children, experience with economic hardship, employment, and state-fixed effects) as well as contextual variables (percent of household on public assistance, percent of families under the poverty line).

Due to the fact that the outcome variable is binary, we will be estimating this logistic equation with a maximum likelihood estimator (MLE). Findings will be presented using logit coefficients and factor change in odds ratios. Because this survey is used to represent United States nationally, weights are applied in all estimations to correct for biased standard errors, and all statistical analysis was conducted using STATA 11 software.

Data

Studying undocumented families and program use is a challenge especially when further collapsing families into mixed-status subcategories by nationality, race, and ethnicity. To model a mixed-status family one family member has to be a U.S. citizen and at least one parent should be undocumented. In order to fulfill data requirements, we make use of the survey sampling strategy of the Fragile Families and Child Wellbeing Survey (FFCWB). The Fragile Families and Child Wellbeing Study is a national longitudinal sample of all U.S. cities with 200,000 or more inhabitants between 1998 and 2000. Data have been collected on 4,898 births in 75 hospitals in 20 cities across the United States. The study then follows a cohort of parents and their children from child’s birth, 12th month, 30th month, 48th month, and when the child is nine years old (currently in the field). This analysis uses the nationally representative weights to be able to generalize about the well-being of families living in fragile families.

The Fragile Families and Child Wellbeing Study data are of particular importance for this study because of their scope and national representativeness. In addition, the Fragile Families by design includes only families who have a child born in the United States, granting the child citizenship by birthright. The study has a representative number of mixed-status families who are sampled across time on various indicators of social service participation, earnings, and physical/mental health. Moreover, the contract data have geographic indicators that permit merging external data sources to the geographic location of the mother. The first two waves of the Fragile Families survey are utilized, which were administered in 1998–2001.

External sources of data (deportation data from Special Agent in Charge Districts of the U.S. Department of Homeland Security,\(^5\) undocumented population estimates from the Pew Hispanic Center, and legislative data from the Migration Policy Institute [MPI])

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\(^4\) Various derivations of this model have been tested for specification, multicollinearity, and robustness.
\(^5\) Obtained through the Freedom of Information Act (FOIA) and now publicly available.

**Measures**

**Family Categories**

Mixed-status mothers in this study are defined as mothers who are undocumented and who have a child who is American by birthright. Families were separated by race and ethnicity and citizenship status. For example, families were collapsed into U.S.-born non-Hispanic whites (reference group), U.S.-born non-Hispanic black, non-Hispanic black naturalized, non-Hispanic black mixed status, U.S.-born Hispanic, Hispanic naturalized, Mexican-Hispanic mixed status, and non-Mexican Hispanic mixed-status family.

Up to this point there is no prior research on how to code mixed status. Using qualitative interviews and focus groups, a typology was constructed and depicts the complexities of mixed-status families, which are shown in Exhibit 1. Qualitative interviews suggest that mixed-status families are a function of residency in the United States, and the demographic profile of an individual. In general, the family in the upper right hand corner of Exhibit 1 is representative of families who have come to the United States relatively young and have been in the United States long enough to form a family. The family in the center tends to be older and has already established a family in Mexico prior to immigrating to the United States.

To be coded as mixed-status in the FFCWB data set, you have to self-identify as being foreign born and noncitizen. If satisfying the above criteria, you were coded as mixed-status. If mothers were not asked the citizen question (two cities were skipped) and said they were foreign born they were coded as being citizens if they arrived pre-1986 and presumed to be noncitizens after 1986. Moreover, because the FFCWB design surveys mothers who have given birth in a U.S. hospital this automatically makes them eligible to be classified as mixed-status.

**Risk of Deportation**

Risk of deportation is measured as the proportion of deported aliens divided by the number of estimated unauthorized immigrants. For example, we would expect that the risk of being deported in Texas is different than the risk of being deported in North Carolina. Deportation data are gathered from the Department of Homelands Security-Immigration Statistics office. The data are then classified by the 26 Special Agents in Charge Jurisdictions, which are responsible for enforcing specific jurisdictions within the

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6 Estimates for unauthorized immigrants are provided by the Pew Hispanic Center.
nation’s interior. The 26 SAC offices maintain various subordinate field offices throughout their areas of responsibility, and produce statistics on deportations across time.

Risk is constructed by taking the proportion of deportations, which is at the SAC-district level, by the estimated undocumented population that is measured at the state level. In some states, there are multiple SAC districts, such as in Florida and New York. Furthermore, SAC jurisdictions can have multiple offices in a state or have their jurisdictions reach across state boundaries.

Risk of deportation is constructed by taking the total number of deportations in the SAC district and multiplying it by the proportion of the total population of a given state by the total population of the states within the SAC region. The formula is as such:

$$\Gamma = \left( \frac{\text{no. of deported in SAC}}{\text{total population of state}} \times \left( \frac{\text{total population of state}}{\text{total population SAC region}} \right) \right) \div \text{no. of undocumented in state}.$$

For example, to calculate the total number of deportation in Indiana, you would take the total deported in the Chicago SAC (Indianapolis is the Chicago SAC district jurisdiction) district ($n = 6,493$). Multiply this figure by the proportion of the total population in Indiana in 2000 ($n = 6,091,392$) divided by the sum of the populations of each state in the Chicago SAC district ($\Sigma(\text{IN, KY, IL, WI, MO, KS}) = 36,250,793$), which is $$((6,091,392/36,250,793) = 0.1680) \times (6,493)) = 1,091$$ deported aliens in the Hoosier State in 2000. After deriving this number you then divide by the number of estimated undocumented immigrants in that state ($\text{IN} = 65,000$), which provides an estimate of the risk of being deported in the state of Indiana in 2000. In this case the risk of being
deported in Indiana is \( \frac{1,091}{65,000} = 1.67 \) percent. This formula then allows us to estimate deportations at the state level and also take into account the areas of responsibility for each SAC district.

Deportations, however, are not uniform across nationalities, for example, in 2000, 0.961 percent of all deportees were from Mexico, Central and South Americans made up 0.004 percent of deportees, and the remaining 0.035 percent were from non-Latino America countries. To take these enforcement differences into account, we then applied weights of 0.961 for Mexican mixed-status mothers, 0.004 for non-Mexican Hispanic mixed-status mothers, and 0.035 for all other no-Hispanic mixed-status families. We can also assume the U.S.-born mothers and naturalized citizens do not have a risk of deportation and are assigned a value of 0.

**Legislative Threat**

Legislative threat is the sum of anti-immigrant legislation passed, rejected, or expired across 50 states. The type of anti-immigrant legislations vary from education, public benefits, law enforcement, employment, and a category for other (this includes family law, housing, English as an official language, etc.). The data on anti-immigrant legislation come from a methodology created by the MPI. This methodology uses the StateNet database within LexisNexis and Westlaw to locate all state legislation that has somehow regulated immigration. As one would expect, many bills were companion bills or were substantially similar to other bills introduced under different numbers in one or both houses of the legislature; each of these bills will be counted separately. Due to the fact that some bills expand immigrant rights, these bills are subtracted out to ensure we are just focusing on anti-immigrant bills. While this measure is imperfect, it does capture a negative sentiment in a geographic space. Moreover, because some laws are extreme and will never pass, we argue that including all laws (not just adopted laws) provides a more robust measure of the potential threat of anti-immigrant legislation. To control for variation in the effects of legislative threat for mixed-status mothers, we take the total deportations in a given year and divide by the country of origin of the deportee. Using the same weighting scheme as in the risk of deportation that takes into account the differences in deportation by country, we also use this metric for legislative threat. We also assume U.S. families are not affected by legislative threats and are assigned a value of 0.

**Economic Hardship FFCWB**

After testing several specifications of income and maternal well-being, this analysis uses a nontraditional approach to measure poverty. Since this study is on a population that by law is not authorized to be in the formal labor market, specifying a relative measure of economic hardship gives a better indicator of the level of economic hardship a family might

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7This methodology employs a combination of 17 search terms, including alien or immigra! or “nonimmigrat!” or citizenship or noncitizen or “non-citizen” or “not a citizen” or undocumented or “lawful presence” or “legal! present!” or “legal permanent resident!” or “lawful permanent resident” or migrant or “basic pilot program” or “employment eligibility” or “unauthorized worker” OR “human trafficking” and not “responsible citizenship” or “good citizenship” or “citizenship training” or unborn or alienate or alienation or “alien insurt!” or “alien company” or “alien reinsure!”
be facing. Several studies indicate that maternal well-being is a better indicator than income (Mayer and Jencks, 1989; Beverly, 2001; Teitler, Reichman, and Nepomnyaschy, 2004; Sullivan, Turner, and Danziger, 2008; Heflin, 2009). Moreover, qualitative data regarding parent’s household income show that in general mixed-status families tend to work off the books, or use falsified documents to obtain employment. To overcome this, we constructed a measure of economic hardship. This construct is a sum of 12 indicators ranging from help with food, hunger, if the mother has had to use a homeless shelter, trouble paying bills, and so forth.

Additional Control Variables

In addition to family categories, risk of deportation, and legislative threat, additional control variables are included to estimate WIC participation that are consistent with the literature. For example, education is specified with two binary variables (0 = high school and above, 1 = less than high school). A binary indicator of marital status (1 = married, 0 = unmarried) is included to understand differences in WIC uptake by marital status as well as a binary variable on employment status (0 = unemployed, 1 = employed). We also include a measure of the number of children in the household and age of mother. Research indicates that older married couples are less likely to use WIC than younger single-parent families and the number of additional children to be positively associated with WIC take-up (Chatterji et al., 2002). In addition, state-fixed effect dummies are included to control for the clustering of respondents within hospitals as well as contextual variables such as percent of household on public assistance and the percent of families under the poverty line.

Outcome Variable

The WIC indicator is a dichotomous measure if the mother is using the program (1 = yes, 0 = no). This question is only asked in the 12-month survey (second wave) of FFCWB. “Since (CHILD) was born, have you received help from any of the following agencies . . . or programs?” WIC (Woman, Infant, and Child Program) being on the list.

Table 1 provides an overview of the key demographic family groups used in this analysis. Immigration status is broken into three categories: U.S.-born citizen, naturalized citizens, and noncitizens (mixed-status families). Race/ethnicity/nationality is broken down into the following categories: non-Hispanic white, non-Hispanic nonwhite, pan ethnic Hispanic, Hispanic of Mexican origin, and Hispanics non-Mexican ancestry. Mixed-status families represent about 11.6 percent (567/4,884) of families in the FFCWB (Mexican origin representing over half). This is 2.5 percentage points above the national estimate (9 percent) taken from the 1998 Current Population Survey (Fix and Zimmerman, 1999; Passel and Clark, 1998).

Table 2 provides a detailed tabulation of the summary statistics used in the analysis. In general, the FFCWB sample tends to be black (46 percent), relatively young (25 years old), and participating in WIC at high rates (70 percent). In general, over 30 percent of mothers had less than a high school education yet mothers also tended to be either part-time or

8When citizenship status is missing (N = 223), mothers who migrated to the United States prior to 1986 are categorized as naturalized citizens. Those migrating during or after 1986 are classified as noncitizens.
Mixed-Status Families and WIC Uptake

TABLE 1
Key Demographic Groups in Fragile Families

<table>
<thead>
<tr>
<th></th>
<th>Non-Hispanic White</th>
<th>Non-Hispanic Non-Hispanic Mexican</th>
<th>Hispanic: Mexican National</th>
<th>Hispanic: Non-Mexican National</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.-born citizen</td>
<td>1,024</td>
<td>2,283</td>
<td>790</td>
<td>–</td>
</tr>
<tr>
<td>Naturalized citizen</td>
<td>–</td>
<td>116</td>
<td>104</td>
<td>–</td>
</tr>
<tr>
<td>Noncitizen</td>
<td>–</td>
<td>120</td>
<td>–</td>
<td>315</td>
</tr>
</tbody>
</table>

*When citizenship status is missing (N = 223), mothers who migrated to the United States prior to 1986 are categorized as naturalized citizens. Those migrating during or after 1986 are classified as noncitizens.

TABLE 2
Summary Statistics for Analysis Using Fragile Families Child Wellbeing Survey (n = 2,764)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIC</td>
<td>0.728</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Non-Hispanic white</td>
<td>0.21</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other: U.S.-born citizen</td>
<td>0.467</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other: naturalized citizen</td>
<td>0.024</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other: mixed status</td>
<td>0.025</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic: U.S.-born citizen</td>
<td>0.162</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic: naturalized citizen</td>
<td>0.021</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic: non-Mexican mixed status</td>
<td>0.027</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic: Mexican mixed status</td>
<td>0.064</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>25.28</td>
<td>6.047</td>
<td>15</td>
<td>43</td>
</tr>
<tr>
<td>Less than high school</td>
<td>0.348</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Married or cohabitating</td>
<td>0.242</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Number of children</td>
<td>2.159</td>
<td>1.325</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Economic hardship</td>
<td>2.342</td>
<td>3.729</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Employed</td>
<td>0.774</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Risk of deportation (percent)</td>
<td>0.094</td>
<td>0.37</td>
<td>0</td>
<td>3.13</td>
</tr>
<tr>
<td>Legislative threat</td>
<td>2.69</td>
<td>12.295</td>
<td>0</td>
<td>90.33</td>
</tr>
<tr>
<td>Percentage of HH on public assistance</td>
<td>0.081</td>
<td>0.072</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Percentage of families below poverty level</td>
<td>0.191</td>
<td>0.139</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

half-time employed. Fragile Family mothers in this sample also had low marriage and cohabiting rates and have at minimum two other biological children.

The fact that FFCWB is a national representative sample of poor, single families explains the low marriage rates, WIC use, and low educational attainment.

Results

The analysis uses a nationally representative sample to test the relationship between risks of deportation on the probability of WIC use. The first step in this analysis is to run a baseline logistical regression to estimate WIC participation (model 1). Model 1 provides a benchmark to examine WIC take-up differences between family categories controlling for age, education, marital status, number of children, economic hardship, employment, and contextual control variables (percent of households on public assistance and percent of
### TABLE 3
Logistic Coefficients for Regression of WIC Take-Up Using Fragile Families Child Wellbeing Survey (n = 2,764)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>Odds Ratios</td>
<td>β</td>
<td>Odds Ratios</td>
</tr>
<tr>
<td>Reference category: white non-Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic: U.S.-born</td>
<td>1.150***</td>
<td>3.159***</td>
<td>1.142***</td>
<td>3.133***</td>
</tr>
<tr>
<td>Hispanic: Mexican mixed status</td>
<td>3.709***</td>
<td>40.818***</td>
<td>5.723**</td>
<td>305.901**</td>
</tr>
<tr>
<td>Hispanic: Non-Mexican mixed status</td>
<td>2.511***</td>
<td>12.321***</td>
<td>2.568***</td>
<td>13.045***</td>
</tr>
<tr>
<td>Hispanic: Naturalized</td>
<td>3.212***</td>
<td>24.831***</td>
<td>3.226***</td>
<td>25.181***</td>
</tr>
<tr>
<td>Other: U.S.-born</td>
<td>1.398***</td>
<td>4.049***</td>
<td>1.431***</td>
<td>4.182***</td>
</tr>
<tr>
<td>Other: Mixed status</td>
<td>1.534***</td>
<td>4.638***</td>
<td>1.540***</td>
<td>4.665***</td>
</tr>
<tr>
<td>Other: Naturalized</td>
<td>−0.14</td>
<td>0.869</td>
<td>−0.14</td>
<td>0.869</td>
</tr>
<tr>
<td>Age</td>
<td>−0.129***</td>
<td>0.879***</td>
<td>−0.131***</td>
<td>0.877***</td>
</tr>
<tr>
<td>Education: less than HS</td>
<td>−0.172</td>
<td>0.842</td>
<td>−0.214</td>
<td>0.808</td>
</tr>
<tr>
<td>Married</td>
<td>−1.340**</td>
<td>0.262***</td>
<td>−1.355***</td>
<td>0.258***</td>
</tr>
<tr>
<td>Number of children</td>
<td>0.282**</td>
<td>1.326**</td>
<td>0.274**</td>
<td>1.315**</td>
</tr>
<tr>
<td>Hardship</td>
<td>0.405***</td>
<td>1.499***</td>
<td>0.392***</td>
<td>1.481***</td>
</tr>
<tr>
<td>Employed</td>
<td>−0.233</td>
<td>0.792</td>
<td>−0.218</td>
<td>0.804</td>
</tr>
<tr>
<td>Percentage of HH on public assistance</td>
<td>−0.413</td>
<td>0.662</td>
<td>−0.429</td>
<td>0.651</td>
</tr>
<tr>
<td>Percentage of families below poverty level</td>
<td>1.648</td>
<td>5.194</td>
<td>1.667</td>
<td>5.294</td>
</tr>
<tr>
<td>Legislative threat</td>
<td>—</td>
<td>—</td>
<td>0.059</td>
<td>1.061</td>
</tr>
<tr>
<td>Risk of deportation</td>
<td>—</td>
<td>—</td>
<td>−3.645*</td>
<td>0.026*</td>
</tr>
</tbody>
</table>

Notes: ***p<0.01, **p<0.05, *p<0.1, β is a logit coefficient.

families below poverty level). We then reestimate model 1 and include risk of deportation and legislative threat to examine the probability of WIC take-up (model 2). We include logit coefficients and a column for odds ratios for a unit change (factor change in odds) of the independent variables.

From model 1 (Table 3), all families (except non-Hispanic naturalized mothers) participated in WIC at higher rates than U.S. white mothers, our reference category. This is particularly true for Hispanic mixed-status families and Hispanic naturalized families. In fact, the odds are 40.8 times larger that a Hispanic mixed-status family of Mexican origin as opposed to U.S.-born white mothers will participate in WIC, holding all else constant, which is significant at the 0.001 level. The odds of WIC participation for Hispanic naturalized mothers (24.8) and Hispanic non-Mexican mixed-status families (12.32) are also higher compared to U.S. white mothers.

Our findings are in line with the WIC uptake literature in that age, marital status, and additional children in the household are negatively associated with WIC participation. In our sample, as a mother gets one year older, the odds of participating in WIC decrease by 12 percent, holding all other variables constant. If the mother was married, the odds of participating in WIC decreased by 74 percent, holding all else constant. The effects of economic hardship on WIC participation were as expected, so as a mother faced more hardship, she was more likely to participate in WIC, which is statistically significant. The result for education on WIC participation was unexpected as we did not find differences in WIC participation between mothers with less than high school and mother’s with high school and secondary education, which could be attributed to the sample design as Fragile Families is a representative study of families in poverty.

The results from model 1 indicate that in fact the odds of WIC participation are larger for all mothers (except naturalized non-Hispanic) compared to U.S. white mothers. Having
model 1 as a benchmark, we then examine the effects of risk of deportation and legislative threat on WIC use.

From model 2, the findings suggest that there is evidence that risk of deportation does have an effect on the probability of WIC take-up. This finding is important as it is the first study to measure and test risk of deportation as a predictor of WIC uptake. Moreover, once we control for risk of deportation and legislative threat, we can better understand program use across family typologies. As hypothesized, risk of deportation is negatively associated with WIC participation. For a 1 percentage change in risk of deportation, the odds of WIC participation are expected to decrease by a factor of 0.026, holding all else constant, which is marginally statistically significant at the 0.1 level. In other words, for a 1 percentage increase in risk of deportation, the odds of participating in WIC decrease by 97 percent, holding all else constant. Moreover, we do not find evidence between the anti-immigrant legislations and WIC participation.

Discussion and Conclusion

This article finds evidence that mixed-status families have higher odds of WIC uptake compared to their U.S.-born white counterparts. This finding is not surprising given the rates of WIC use among Latino populations. However, this finding is novel as this is the first study to disaggregate the Latino population and provides in-depth heterogeneity within this growing population. Our main contribution suggest that risk of deportation does negatively affect WIC uptake, and once we control for this variable, the odds of WIC uptake increase substantially for mixed-status Mexican families, while holding other variables constant. This finding is of great importance, as it suggests that risk of being deported is having a chilling effect and preventing U.S. children from receiving aid. This is of major concern as WIC’s mission is to safeguard the health of low-income families. Mixed-status families and Mexican mixed-status families in particular should be of critical concern for policymakers interested in alleviating poverty in complex families. Mixed-status Mexican families are extremely vulnerable in this regard as they are more likely to live in poverty, are less likely to have access to healthcare, and living in the shadows of U.S. society. Moreover, these families are especially at risk as family disruption through deportation removal is a real occurrence among these families.

This study is important as it adds to the program evaluation literature that has yet to address the impact risk of deportation has had on the “chilling effect” of social services. More importantly, our analysis provides a typology and framework to study mixed-status families and evaluate their usage of WIC. Ultimately, our analysis has the potential to help service providers address the needs of children living in complex family structures and policymakers interested in understanding how these families utilize social services.

Finally, deportations and their negative association with WIC uptake contribute to the continued marginalization of this already vulnerable community. This analysis then has important implications for scholars of immigration and immigrant policy, public health researchers, and policymakers concerned with the unintended consequences of anti-immigrant sentiment across the nation. As comprehensive immigration reform has failed to pass through the Obama Administration, we hope Congress can put politics aside and realize that we are shooting ourselves in the foot by not properly investing in our youth, which is our greatest asset. Future work in this area should address the impact of deportations on health outcomes among mixed-status families with an emphasis on intrafamily dynamics. Research in this area should also examine social service uptake across
mixed-status families as we expect there to be differences in uptake across family type and program type based on eligibility and demand.

REFERENCES


