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# Does immigration status influence relationship formation among Fragile Families?

Over the past 50 years many immigration scholars have considered the importance of assimilation in predicting immigrant outcomes for 1st, 2nd, and 3rd generation immigrant groups. An often overlooked component of this research agenda has been how assimilation influences family formation decisions overtime. For this research project I will consider the ways in which immigrant status and country of origin influence parental relationships among groups that are at a high risk for relationship dissolution. According to previous research, variations in relationship outcomes due to immigrant generations are likely to be a result of differential assimilations patterns.

## Assimilation Theory

Milton Gordon developed the classic assimilation theory in his 1964 paper "The Nature of Assimilation." According to Gordon, assimilation occurs when people of different cultural heritages achieve cultural solidarity (common cultural life) to the point that the immigrant is "able to function in the host country without encountering prejudiced attitudes or discriminatory behavior (63)." A key component of assimilation is that cultural differences disappear because immigrants give up their cultural identities and assume the identities of the primary subculture, which in the United States is Anglo-Saxon, Protestant and White.

Although useful in understanding differences among groups, Alba and Nee (2003) argue that assimilation theory needs a more modern conceptualization. Specifically, Alba and Nee believe the classic view of assimilation is too rigid and doesn't describe the process that immigrants encounter when coming to America. According to these authors, any definition of assimilation must be flexible enough to describe incorporation into a racially diverse mainstream society, and must recognize three points: (1) ethnicity is a social boundary that influences the way people act and respond to others, (2) ethnic distinctions are embedded into a variety of social and cultural differences between people, and (3) assimilation occurs through changes taking place in groups on both sides of the ethnic boundary (p10-11).

Portes and Rambaut further this modern idea of assimilation by describing the ways in which people can assimilate into segmented portions of the population, either upwards into the mainstream culture (WASP) or downwards into adversarial subcultures. As described by Portes and Rumbaut, segmented assimilation may occur because of the characteristics of the first generation parents who cannot provide the opportunities and resources necessary to succeed. Several researchers have completed studies which indicate that immigrant children often have to move to poor, inner-city neighborhoods because of the economic and social constraints faced by their parents. This frequently leads to 'downward assimilation' where children accept the adversarial attitudes and lifestyles of the inner-city with correlating lack of respect for education and middle class work ethics. One of the most deleterious effects of downward assimilation is when second-generation immigrant children 'learn to not learn', and to disregard the education system as a way to escape the class and economic barriers faced by their parents. This

acceptance of non-middle class ideas adds more roadblocks to the child's success, and keeps them in the bottom half of the hourglass economy where service sector jobs are bifurcated between well paying technical jobs and low-paying menial work.

Portes and Rambaut's work can be applied to the family formation literature by predicting the 'downward assimilation' of marital attitudes. In the family literature, Edin and Keffalis's research suggests that native U.S. minority groups, especially Blacks, are much less likely to be married than Whites (although this is largely confounded by class). When considered through the lens of downward assimilation, the minority propensity for separating marriage and childbirth would predict that 2nd generation immigrants would become discouraged because of the harsh economic and social realities of being a minority in a racialized society. As a result of their general discontentment with the US society and culture, 2nd generation youth would accept the adversarial attitudes of the minority group (Blacks) which decouple marriage and childbirth.

When applied to my question of family formations, the modern conceptualization of assimilation would predict that ethnicity and generational status will influence the way mothers and fathers respond to one another (Alba and Nee) and the way they conceptualize possible family outcomes and the acceptability of being in a particular form of relationship overtime (Portes and Raumbaut). As a result of this framing, I have developed two hypotheses which deal with immigration status and parental relationships over time.

1) I hypothesize that immigration status will be directly associated with relationship type, such that women who are first generation immigrants will be more likely to be in marital relationships than second or third generation women. This is expected to occur because assimilation affects the way parents interact with one another and define their relationship needs.
2) I anticipate that second generation immigrants will be most similar to third generation immigrants on relationship status, likely because 2nd generation women choose to assimilate downward rather than maintain the family patterns of their immigrant parents.

**Region**

In addition to the importance of assimilation and generational status, researchers have found that country of origin can significantly influence personal outcomes overtime. Massey suggests that today's immigrants are much more likely to be from a single sending country than immigrants of the last century, with roughly one quarter of all immigrants being from Mexico. This influences ethnic identity because 1) more migrants are available to reaffirm and continuously shape strong country of origin identities, and 2) non-immigrant Americans are more easily able to 'mark' immigrants from their place of origin based on cultural or phenotypical cues. These markings create easy divisions of Us and Them which create barriers to assimilation spawned by both natives and immigrants. Because of the strong representation of people from the same county of origin, ethnic enclaves have developed, where people of the same nativity live together and reinforce ethnic identities based on country of origin. These type of living arrangements promote strong ethnic identities among new immigrants, but were not factors of identity formation for earlier waves. In fact, more immigrants live in ethnic enclaves today than at any other time during the 20th century. "The emergence of immigrant enclaves…reduces the incentives and opportunities to learn other cultural habits and behavioral attributes of European-American society (647)." As a result, the immigrant's identity is more salient, while the 'melting pot' identity of Euro-American is less necessary and available. This influences ethnicity by

highlighting country of origin culture, language, and behavior while limiting the assimilation to American culture, language, and behavior patterns.

When applied to family formation, this research suggests that sending country will predict marital relations because modern immigrant flows are large and continual which reinforce ethnicity and sending country behavior patterns. As a result, people from countries of origin other than the Untied States should have significant differences in their type of family formation. In order to capture this distinction, I have included a third hypothesis, which states:

3) I hypothesize that mother's region of birth will significantly predict relationship status. Specifically, I expect that women who are born outside of the United States will be more likely to be in marital relationships than women who are born in the United States. This finding will be especially strong when women are from traditional societies, such as those found in many South American countries.

**Fragile Families and Child Wellbeing Study**

The Fragile Families and Child Wellbeing Study[1] is an ongoing, interdisciplinary data collection project that targets nearly 5,000 children born to unmarried couples living in large U.S. cities[2] between 1998 and 2000. Investigators have collected data from interviews with the mothers and fathers at the birth of the child, and again when the child was age one and three. The parent interviews provide details on the mother-father relationship, as well as demographic characteristics, immigration status, region of origin, and parental attitudes. For the purpose of this paper, I will be analyzing data from the mother's interview at the time of the child's birth and one and two years following the initial collection.

Of the 4,989 mothers who participated in the Fragile Families study, 3,417 were eligible for analysis in this preliminary study. 1572 women were omitted from the sample because they did not meet the following criterion: (1) the mother and father were alive and known for all three waves of data, (2) the mother completed a survey for all three waves of data collection, and (3) the mother provided valid responses to the variables used in this analysis.

Although the Fragile Families Study provides an excellent resource for studying the influence of immigration status on the parental relationship, a search of the major online journal sources and the Fragile Family webpage suggests that no one has published research related to immigration status with Fragile Family data. Further, no one has used this data to research the ways in which relationship formation are influenced by immigration status. The ideas presented in this paper are designed to contribute to the current literature in two ways: first, as an addition to the migration literature which has overlooked this popular family dataset as a source of potential analysis. And,

[1] The Fragile Families and Child Wellbeing Study is a joint effort by Princeton University's Center for Research on Child Wellbeing (CRCW) and Center for Health and Wellbeing, and Columbia University's Social Indicators Survey Center and The National Center for Children and Families (NCCF). The Principal Investigators of the Fragile Families Study are Sara McLanahan and Christina Paxson at Princeton University and Irwin Garfinkel and Jeanne Brooks-Gunn at Columbia University. More information on Fragile Families can be found at : http://www.fragilefamilies.princeton.edu/about.asp.

[2] 18 cities were selected from a sample of U.S. cities with over 200,000 residents

second, as a further conceptualization of immigration as a predictor of personal and family outcomes.

**Variables Used**

This paper focuses on the relationship between the birth mother and father over three waves of data collection. This variable was constructed by using the mother's self report of relationship status and collapsing the items into a range of responses that were comparable across waves of data collection. The final relationship variable has five outcomes: married, romantically involved, friends, no relationship whatsoever, and separated or divorced (the final category was only used in waves 2 and 3, because it is relative to the time one status).

To answer the question of how immigration influences the relationship outcomes for parents, I have constructed a measure of immigrant generation status. The logic of the measure is visually displayed in the Table below. Mother's were coded as a third or beyond generation immigrant if they answered 'yes' to two questions: (1) were both parents born in the United States? And (2) were you born in the United States? Mothers were coded as first generation immigrants if they answered 'no' to both questions; that is, neither they nor their parents were born in the United States. Mothers were coded as second generation immigrants if they indicated that their parents were born out of the U.S. while they were born in the United States. The final variable consisted of 586 first generation immigrants (17% of sample), 366 second generation immigrants (11% of sample), and 2465 third plus generation immigrants (72% of sample, n=3417).

**Table 1. Logic for the Creation of an Immigrant Generation Variable**

| | | **Were both parents born in the U.S.?** | |
|---|---|---|---|
| | | ***Yes*** | ***No*** |
| **Were you born in the U.S.?** | ***Yes*** | 3rd+ generation immigrant | 2nd generation immigrant |
| | ***No*** | x | 1st generation immigrant |

Another key explanatory variable had roots in the migratory behavior of the respondents. Birth region was incorporated into this analysis as a further explanation of the influence of immigration on familial outcomes. The possible responses to the mother's geographic region of birth include two countries (the United States and Mexico) that make up the largest portion of the sample, as well as eight regional codes: North Africa, Sub-Saharan Africa, Central and South Asia, East Asia, Southwest Asia, Eastern Europe, Western Europe, Latin America (other than Mexico), and Other non-Latin America areas.

Several control variables were also used in this analysis, including race (White, Black, Asian, American Indian, and Other) and ethnicity (Hispanic origin or descent). Maternal education was added as a control variable, and was constructed to contain four possible response categories: less than high school education, high school education or GED, more than high school education, and 4 year college degree or more. Age, in years, was included in the model as a continuous

predictor of relationship type, and was the only control variable that changed over time (the others were either time invariant, or were only asked in one wave of data collection).

A final explanatory variable included in the regression model deals with the ways in which relationship expectations predict relationship behavior. During the first wave of data collection, the birth mothers were asked 'What is the likelihood that you will marry the birth father'. Their responses were recoded into four categories: it is certain I will marry the birth father[3], there is a good chance I will marry the father, there is a 50/50 chance, and there is little or chance I will marry the birth father. Descriptive information for all variables is presented in Table 2.

**Results**

In order to understand how immigration influences relationship outcomes for parents, I have conducted a three tier analysis plan. First, I look at how relationships change over the three waves of data collection for all mothers who participated in the study. Next, I consider how these relationships vary by immigration status. And finally, I conduct a multinomial regression analysis that considers how the key independent variables influence one another to predict the mother's relationship with the birth father, with particular attention given to the role of immigration status and country or origin.

To begin, I considered how relationship status changed over time for all women in the 'Fragile Family' sample. As seen in Table 3, most women were in romantic relationships with the birth father during the first wave of data collection (62.4%). The next largest group was married women (26.2%) followed by those in no relationship (5.8%) or mothers who were friends with the birth father (5.6%).[4]

By wave three, there are over 100 possible relationship outcomes for the women in the sample (for example, romantically involved → married → separated or divorced). Of the 100 possible outcomes, there are 73 different patterns utilized by women in this sample indicating a very complex pattern of relationship formaiton. The 20 most common patterns are displayed in the first column of Table 4 (M=married, R=romantic, F=friends, N=no relationship, S=separated or divorced).

[3] This category included women who were already married to the birth father.
[4] Table 3b-d are included in Appendix A, and contain information of relationship patterns over time, separated by immigrant generation.

**Table 2. Descriptive Information for Variables Over Three Waves of Data Collection**

| | | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Dependent | | | | | |
| | Married | 0.3021 | 0.4592 | 0 | 1 |
| | Romantic | 0.4213 | 0.4938 | 0 | 1 |
| | Friends | 0.1265 | 0.3324 | 0 | 1 |
| | No Relationship | 0.1256 | 0.3314 | 0 | 1 |
| | Separated/Div | 0.0245 | 0.1547 | 0 | 1 |
| Independent | | | | | |
| | 1st Generation | 0.1705 | 0.3761 | 0 | 1 |
| | 2nd Generation | 0.1072 | 0.3094 | 0 | 1 |
| | 3rd Generation | 0.7222 | 0.4479 | 0 | 1 |
| | | | | | |
| | U.S.A. | 0.8292 | 0.3764 | 0 | 1 |
| | Africa- North | 0.0012 | 0.0342 | 0 | 1 |
| | Africa- Sub-Saharan | 0.0054 | 0.0731 | 0 | 1 |
| | Asia- Central South | 0.0047 | 0.0683 | 0 | 1 |
| | Asia- East | 0.0196 | 0.1387 | 0 | 1 |
| | Asia- South West | 0.0018 | 0.0419 | 0 | 1 |
| | Europe- East | 0.0026 | 0.0513 | 0 | 1 |
| | Europe- West | 0.0052 | 0.0718 | 0 | 1 |
| | Mexico | 0.0765 | 0.2658 | 0 | 1 |
| | Latin America- nonMexico | 0.0355 | 0.1849 | 0 | 1 |
| | Other | 0.0185 | 0.1346 | 0 | 1 |
| Controls | | | | | |
| | White | 0.3149 | 0.4645 | 0 | 1 |
| | Black | 0.4956 | 0.5000 | 0 | 1 |
| | Asian | 0.0266 | 0.1608 | 0 | 1 |
| | AmerInd | 0.0381 | 0.1914 | 0 | 1 |
| | Other | 0.1248 | 0.3305 | 0 | 1 |
| | | | | | |
| | < High School | 0.3239 | 0.4680 | 0 | 1 |
| | High Sch or GED | 0.3070 | 0.4613 | 0 | 1 |
| | > High School | 0.2549 | 0.4358 | 0 | 1 |
| | College or > | 0.1142 | 0.3180 | 0 | 1 |
| | | | | | |
| | Age | 26.6664 | 6.1973 | 14 | 53 |
| | | | | | |
| | Chance marry: Little/None | 0.1838 | 0.3874 | 0 | 1 |
| | Chance marry: 50/50 | 0.1296 | 0.3359 | 0 | 1 |
| | Chance marry: Good | 0.1735 | 0.3787 | 0 | 1 |
| | Chance marry: Certain | 0.5131 | 0.4999 | 0 | 1 |

Although mothers in this sample have a large number of complex relationship patterns, it is important to note that these women tend to be involved with the birth father in stable relationships over time, regardless of what form they take at the beginning of the study. As illustrated in Table 4, consistency in marital relations (married → married → married) and romantic relationships (romantic → romantic → romantic) describe the experience of nearly 45% of the women in the study, and are the two most common forms of relationships for all women, regardless of immigrant status. Stability in 'no relationship' was ranked 10th overall, while ongoing 'friend' status was the 16th most common form. Taken together, stable relationship patterns explain the experience of nearly 50% of the women in the sample, and are particularly prevalent among first generation immigrants (63% of first generation immigrants are involved in stable relationships over time, compared with 47% for second generation immigrants, and 45% for third generation immigrants). Among those in stable relationships, first generation immigrants were more likely than either second or third generation immigrants to be in romantic or married relationships (60% of first generation immigrants were in romantic (21%) or married (39%). For both second and third generation immigrants, 22% of the women were in stable romantic relationships overtime, and about 20% were married for all three waves of data collection.

For the fifty-percent of women who did not report a stable relationship over time, there were a variety of relationship patterns depicted in Tables 3 and 4. Because most women were in romantic relationships during wave one (62%), over half of the top 20 relationship patterns centered on the romantic relationship and its outcomes. For those who were in *romantic* relationships at time one, 40% were still in romantic relationships at time three, 15% were married, 22% were friends, 18% were not in any type of relationship, and 5% were separated or divorced. Of the relationships that started as *friends*, 3% were married at wave three, 12% were romantic, 40% were friends, 43% no relationship, and 3% were separated or divorced. Of those women who were *not in relationship* at time one, 2% were married at time three, 8% were in a romantic relationship, 20% were friends, and 67% were not in a relationship and 3% were separated or divorced. And finally, of the relationships that started as *married*, 89% were married at time three, 1% were romantic, .3% were friends, 1% had no relationship, and 9% were separated or divorced.

To test whether immigration status and country of origin influence one another in predicting relationship status, I conducted a multivariate regression analysis in STATA. To best utilize the three waves of data collection, the data were clustered on the mothers' ID, which adjusted the standard errors to account for multiple responses from the 3417 mothers in the sample[5]. I also added survey wave to control for the passage of time[6]. Because my outcome variable is non-normally distributed, linear regression techniques are not appropriate for this model[7], therefore a multinomial logistic regression was used for this analysis.

[5] When the data were reshaped long, there were 10251 observations. 13 of the person year cases were removed because they were influential observations (both leverage points and outliers) keeping the number of mothers at 3417, but reducing the total n for Table 5 to 10238 person year observations.

[6] I also tested whether survey wave had a curvilinear relationship with the outcome variable, which it did not. This can be interpreted as meaning that women progressively choose to lessen the closeness of their relationships with the birth father over time. Because the relationship is linear and positive from wave 1 to 2 to 3, it is not necessary to include a transformed year variable.

[7] Other model tests were conducted for colinearity (not a problem) and a two-way scatter plot was run on the residuals and fitted values to test whether there was a systematic relationship between the error and the dependent variable. The result was linear, indicating the error is not systematic.

Table 3. Mother's Report of Family Structure for Three Waves of Data Collection, n=3417

| Wave 1 | | | Wave 2 | | | Wave 3 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *n* | *% Total* | | *n* | *% 1st group* | | *n* | *% 1st group* | *% 2nd group* |
| Married | 895 | *26.2%* | Married | 844 | *94.3%* | Married | 787 | *87.9%* | *93.2%* |
| | | | | | | Romantic | 3 | *0.3%* | *0.4%* |
| | | | | | | Friends | 2 | *0.2%* | *0.2%* |
| | | | | | | No relationship | 4 | *0.4%* | *0.5%* |
| | | | | | | Separated/Div | 48 | *5.4%* | *5.7%* |
| | | | Romantic | 12 | *1.3%* | Married | 3 | *0.3%* | *25.0%* |
| | | | | | | Romantic | 5 | *0.6%* | *41.7%* |
| | | | | | | Friends | 0 | *0.0%* | *0.0%* |
| | | | | | | No relationship | 2 | *0.2%* | *16.7%* |
| | | | | | | Separated/Div | 2 | *0.2%* | *16.7%* |
| | | | Friends | 1 | *0.1%* | Married | 0 | *0.0%* | *0.0%* |
| | | | | | | Romantic | 0 | *0.0%* | *0.0%* |
| | | | | | | Friends | 0 | *0.0%* | *0.0%* |
| | | | | | | No relationship | 0 | *0.0%* | *0.0%* |
| | | | | | | Separated/Div | 1 | *0.1%* | *100%* |
| | | | No relationship | 1 | *0.1%* | Married | 0 | *0.0%* | *0.0%* |
| | | | | | | Romantic | 0 | *0.0%* | *0.0%* |
| | | | | | | Friends | 0 | *0.0%* | *0.0%* |
| | | | | | | No relationship | 0 | *0.0%* | *0.0%* |
| | | | | | | Separated/Div | 1 | *0.1%* | *100%* |
| | | | Separated/Div | 37 | *4.1%* | Married | 6 | *0.7%* | *16.2%* |
| | | | | | | Romantic | 1 | *0.1%* | *2.7%* |
| | | | | | | Friends | 1 | *0.1%* | *2.7%* |
| | | | | | | No relationship | 3 | *0.3%* | *8.1%* |
| | | | | | | Separated/Div | 26 | *2.9%* | *70.3%* |
| Romantic | 2133 | *62.4%* | Married | 221 | *24.7%* | Married | 177 | *8.3%* | *80.1%* |
| | | | | | | Romantic | 18 | *0.8%* | *8.1%* |
| | | | | | | Friends | 3 | *0.1%* | *1.4%* |
| | | | | | | No relationship | 5 | *0.2%* | *2.3%* |
| | | | | | | Separated/Div | 18 | *0.8%* | *8.1%* |
| | | | Romantic | 1227 | *137.1%* | Married | 134 | *6.3%* | *10.9%* |
| | | | | | | Romantic | 733 | *34.4%* | *59.7%* |
| | | | | | | Friends | 208 | *9.8%* | *17.0%* |
| | | | | | | No relationship | 104 | *4.9%* | *8.5%* |
| | | | | | | Separated/Div | 48 | *2.3%* | *3.9%* |
| | | | Friends | 372 | *41.6%* | Married | 5 | *0.2%* | *1.3%* |
| | | | | | | Romantic | 57 | *2.7%* | *15.3%* |
| | | | | | | Friends | 181 | *8.5%* | *48.7%* |
| | | | | | | No relationship | 110 | *5.2%* | *29.6%* |
| | | | | | | Separated/Div | 19 | *0.9%* | *5.1%* |
| | | | No relationship | 293 | *32.7%* | Married | 6 | *0.3%* | *2.0%* |
| | | | | | | Romantic | 33 | *1.5%* | *11.3%* |
| | | | | | | Friends | 82 | *3.8%* | *28.0%* |
| | | | | | | No relationship | 157 | *7.4%* | *53.6%* |
| | | | | | | Separated/Div | 15 | *0.7%* | *5.1%* |
| | | | Separated/Div | 20 | *2.2%* | Married | 1 | *0.0%* | *5.0%* |
| | | | | | | Romantic | 3 | *0.1%* | *15.0%* |
| | | | | | | Friends | 4 | *0.2%* | *20.0%* |
| | | | | | | No relationship | 6 | *0.3%* | *30.0%* |
| | | | | | | Separated/Div | 6 | *0.3%* | *30.0%* |

Table 3 Cont'. Mother's Report of Family Structure for Three Waves of Data Collection, n=3417

| Wave 1 | | | Wave 2 | | | Wave 3 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *n* | *% total* | | *n* | *% 1st group* | | *n* | *% 1st group* | *% 2nd group* |
| Friends | 192 | *5.6%* | Married | 3 | *1.6%* | Married | 2 | *1.0%* | *66.7%* |
| | | | | | | Romantic | 1 | *0.5%* | *33.3%* |
| | | | | | | Friends | 0 | *0.0%* | *0.0%* |
| | | | | | | No relationship | 0 | *0.0%* | *0.0%* |
| | | | | | | Separated/Div | 0 | *0.0%* | *0.0%* |
| | | | Romantic | 23 | *12.0%* | Married | 2 | *1.0%* | *8.7%* |
| | | | | | | Romantic | 12 | *6.3%* | *52.2%* |
| | | | | | | Friends | 6 | *3.1%* | *26.1%* |
| | | | | | | No relationship | 3 | *1.6%* | *13.0%* |
| | | | | | | Separated/Div | 0 | *0.0%* | *0.0%* |
| | | | Friends | 85 | *44.3%* | Married | 2 | *1.0%* | *2.4%* |
| | | | | | | Romantic | 8 | *4.2%* | *9.4%* |
| | | | | | | Friends | 43 | *22.4%* | *50.6%* |
| | | | | | | No relationship | 30 | *15.6%* | *35.3%* |
| | | | | | | Separated/Div | 2 | *1.0%* | *2.4%* |
| | | | No relationship | 78 | *40.6%* | Married | 0 | *0.0%* | *0.0%* |
| | | | | | | Romantic | 2 | *1.0%* | *2.6%* |
| | | | | | | Friends | 26 | *13.5%* | *33.3%* |
| | | | | | | No relationship | 48 | *25.0%* | *61.5%* |
| | | | | | | Separated/Div | 2 | *1.0%* | *2.6%* |
| | | | Separated/Div | 3 | *1.6%* | Married | 0 | *0.0%* | *0.0%* |
| | | | | | | Romantic | 0 | *0.0%* | *0.0%* |
| | | | | | | Friends | 1 | *0.5%* | *33.3%* |
| | | | | | | No relationship | 1 | *0.5%* | *33.3%* |
| | | | | | | Separated/Div | 1 | *0.5%* | *33.3%* |
| No relationship | 197 | *5.8%* | Married | 3 | *1.5%* | Married | 3 | *1.5%* | *100%* |
| | | | | | | Romantic | 0 | *0.0%* | *0.0%* |
| | | | | | | Friends | 0 | *0.0%* | *0.0%* |
| | | | | | | No relationship | 0 | *0.0%* | *0.0%* |
| | | | | | | Separated/Div | 0 | *0.0%* | *0.0%* |
| | | | Romantic | 26 | *13.2%* | Married | 1 | *0.5%* | *3.8%* |
| | | | | | | Romantic | 10 | *5.1%* | *38.5%* |
| | | | | | | Friends | 4 | *2.0%* | *15.4%* |
| | | | | | | No relationship | 10 | *5.1%* | *38.5%* |
| | | | | | | Separated/Div | 1 | *0.5%* | *3.8%* |
| | | | Friends | 48 | *24.4%* | Married | 0 | *0.0%* | *0.0%* |
| | | | | | | Romantic | 3 | *1.5%* | *6.3%* |
| | | | | | | Friends | 18 | *9.1%* | *37.5%* |
| | | | | | | No relationship | 27 | *13.7%* | *56.3%* |
| | | | | | | Separated/Div | 0 | *0.0%* | *0.0%* |
| | | | No relationship | 119 | *60.4%* | Married | 0 | *0.0%* | *0.0%* |
| | | | | | | Romantic | 3 | *1.5%* | *2.5%* |
| | | | | | | Friends | 18 | *9.1%* | *15.1%* |
| | | | | | | No relationship | 95 | *48.2%* | *79.8%* |
| | | | | | | Separated/Div | 3 | *1.5%* | *2.5%* |
| | | | Separated/Div | 1 | *0.5%* | Married | 0 | *0.0%* | *0.0%* |
| | | | | | | Romantic | 0 | *0.0%* | *0.0%* |
| | | | | | | Friends | 0 | *0.0%* | *0.0%* |
| | | | | | | No relationship | 0 | *0.0%* | *0.0%* |
| | | | | | | Separated/Div | 1 | *0.5%* | *100%* |

**Table 4. Comparison of Immigrant Status and Mother's Relationship with Birth Father over Three Waves of Data Collection, n=3417**

| | | All Respondents | | | 1st Gen Immigrants | | | 2nd Gen Immigrants | | | 3+ Gen Immigrants | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *n=3417* | | | *n=586* | | | *n=366* | | | *n=2465* | | |
| Relationship | Cum % | rank: ALL | n | % of All | rank: 1st gen | n | % of 1st | rank: 2nd gen | n | % of 2nd | rank: 3rd gen | n | % of 3rd |
| M --> M --> M | 23.0% | 1 | 787 | 23.0% | 1 | 226 | 38.6% | 2 | 77 | 21.0% | 2 | 484 | 19.6% |
| R --> R --> R | 44.5% | 2 | 733 | 21.5% | 2 | 123 | 21.0% | 1 | 79 | 21.6% | 1 | 531 | 21.5% |
| R --> R --> F | 50.6% | 3 | 208 | 6.1% | 8 | 11 | 1.9% | 6 | 17 | 4.6% | 3 | 180 | 7.3% |
| R --> F --> F | 55.9% | 4 | 181 | 5.3% | 6 | 13 | 2.2% | 5 | 21 | 5.7% | 4 | 147 | 6.0% |
| R --> M --> M | 61.0% | 5 | 177 | 5.2% | 3 | 47 | 8.0% | 4 | 23 | 6.3% | 6 | 107 | 4.3% |
| R --> N --> N | 65.6% | 6 | 157 | 4.6% | 7 | 13 | 2.2% | 3 | 24 | 6.6% | 5 | 120 | 4.9% |
| R --> R --> M | 69.6% | 7 | 134 | 3.9% | 4 | 31 | 5.3% | 7 | 13 | 3.6% | 8 | 90 | 3.7% |
| R --> F --> N | 72.8% | 8 | 110 | 3.2% | 16 | 3 | 0.5% | 10 | 10 | 2.7% | 7 | 97 | 3.9% |
| R --> R --> N | 75.8% | 9 | 104 | 3.0% | 9 | 11 | 1.9% | 11 | 9 | 2.5% | 9 | 84 | 3.4% |
| N --> N --> N | 78.6% | 10 | 95 | 2.8% | 5 | 18 | 3.1% | 8 | 12 | 3.3% | 11 | 65 | 2.6% |
| R --> N --> F | 81.0% | 11 | 82 | 2.4% | 17 | 3 | 0.5% | 9 | 11 | 3.0% | 10 | 68 | 2.8% |
| R --> F --> R | 82.7% | 12 | 57 | 1.7% | 13 | 5 | 0.9% | 12 | 8 | 2.2% | 12 | 44 | 1.8% |
| M --> M --> S | 84.1% | 13 | 48 | 1.4% | 14 | 5 | 0.9% | 18 | 3 | 0.8% | 13 | 40 | 1.6% |
| R --> R --> S | 85.5% | 14 | 48 | 1.4% | 10 | 8 | 1.4% | 14 | 5 | 1.4% | 15 | 35 | 1.4% |
| F --> N --> N | 86.9% | 15 | 48 | 1.4% | 11 | 6 | 1.0% | 13 | 7 | 1.9% | 14 | 35 | 1.4% |
| F --> F --> F | 88.1% | 16 | 43 | 1.3% | 18 | 3 | 0.5% | 15 | 5 | 1.4% | 16 | 35 | 1.4% |
| R --> N --> R | 89.1% | 17 | 33 | 1.0% | 19 | 3 | 0.5% | 19 | 3 | 0.8% | 17 | 27 | 1.1% |
| F --> F --> N | 90.0% | 18 | 30 | 0.9% | 46 | 0 | 0.0% | 17 | 4 | 1.1% | 18 | 26 | 1.1% |
| N --> F --> N | 90.8% | 19 | 27 | 0.8% | 28 | 2 | 0.3% | 21 | 3 | 0.8% | 19 | 22 | 0.9% |
| M --> S --> S | 91.5% | 20 | 26 | 0.8% | 15 | 4 | 0.7% | 40 | 0 | 0.0% | 21 | 22 | 0.9% |

Multinomial regression models produce a series of binary regression results which compare a baseline group with the all other categories. In this analysis, the mother's relationship with the birth father has five possible values: 1=married, 2=romantic, 3=friends, 4=no relationship and 5= separated or divorced. I have chosen married (1) as the baseline group, and the results of the multinomial regression assess the odds of being in a romantic relationship (2) versus being married, the odds of being friends (3) versus married, the odds of not being in a relationship (4) versus married, and the odds of being separated or divorced (5) versus married.

Rather than reporting the estimated coefficients produced by the multinomial logistic regression equation, I have transformed the values into relative risk ratios (RRR) by exponentiating the beta coefficient. The relative risk ratio can be interpreted much like an odds ratio in binary logistic regression: for every unit increase in X, the odds of the relationship outcome (compared with married) increases by the relative risk coefficient. The relative risk ratios, z scores and p-values are presented in Table 5.

**Table 5. Multinomial Regression of Parental Relationships on Immigration and Birth Country**

| | Romantic | | | Friends | | | No relationship | | | Separated or Div | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RRR | z | Sig | RRR | z | Sig | RRR | z | Sig | RRR | z | Sig |
| gen 1 | ref | - | - | ref | - | - | ref | - | - | ref | - | - |
| gen 2 | ref | - | - | ref | - | - | ref | - | - | ref | - | - |
| gen3 | 1.208 | 1.220 | 0.222 | 1.191 | 0.890 | 0.375 | 1.089 | 0.430 | 0.666 | 1.744 | 2.060 | 0.039 |
| USA | ref | - | - | ref | - | - | ref | - | - | ref | - | - |
| Africa-No | 0.796 | -0.320 | 0.752 | 0.000 | -57.210 | 0.000 | 0.000 | -54.710 | 0.000 | 0.000 | -51.700 | 0.000 |
| Africa-SS | 0.272 | -2.000 | 0.045 | 0.366 | -1.220 | 0.224 | 0.550 | -0.850 | 0.393 | 0.000 | -73.680 | 0.000 |
| Asia-CS | 0.187 | -1.380 | 0.166 | 0.000 | -42.390 | 0.000 | 0.000 | -44.930 | 0.000 | 0.000 | -46.530 | 0.000 |
| Asia-E | 0.845 | -0.270 | 0.790 | 0.308 | -1.420 | 0.155 | 0.485 | -0.970 | 0.332 | 0.644 | -0.630 | 0.530 |
| Asia-W | 0.000 | -61.570 | 0.000 | 0.000 | -56.570 | 0.000 | 0.000 | -56.790 | 0.000 | 0.000 | -59.930 | 0.000 |
| Europe-E | 0.000 | -62.000 | 0.000 | 0.000 | -56.760 | 0.000 | 0.000 | -59.990 | 0.000 | 0.000 | -64.470 | 0.000 |
| Europe-W | 0.326 | -2.140 | 0.032 | 0.066 | -2.630 | 0.009 | 0.096 | -2.350 | 0.019 | 0.000 | -75.620 | 0.000 |
| Mexico | 0.632 | -2.050 | 0.041 | 0.196 | -5.140 | 0.000 | 0.275 | -3.970 | 0.000 | 0.767 | -0.610 | 0.544 |
| LA other | 0.774 | -0.960 | 0.337 | 0.381 | -2.350 | 0.019 | 0.350 | -2.630 | 0.009 | 2.143 | 1.640 | 0.100 |
| Other | 0.497 | -1.910 | 0.056 | 0.194 | -3.350 | 0.001 | 0.353 | -1.940 | 0.052 | 0.919 | -0.140 | 0.890 |
| wave | 0.595 | -16.840 | 0.000 | 1.899 | 13.810 | 0.000 | 2.058 | 15.130 | 0.000 | 4.789 | 15.360 | 0.000 |
| age | 0.915 | -10.380 | 0.000 | 0.903 | -9.390 | 0.000 | 0.897 | -9.610 | 0.000 | 0.954 | -3.330 | 0.001 |
| White | ref | - | - | ref | - | - | ref | - | - | ref | - | - |
| Black | 2.517 | 8.580 | 0.000 | 4.239 | 10.020 | 0.000 | 2.297 | 5.760 | 0.000 | 1.708 | 3.020 | 0.003 |
| Asian | 0.791 | -0.390 | 0.697 | 2.347 | 1.180 | 0.240 | 0.893 | -0.160 | 0.872 | 0.314 | -1.720 | 0.085 |
| AmerInd | 1.605 | 1.950 | 0.051 | 2.943 | 3.400 | 0.001 | 2.059 | 2.070 | 0.038 | 0.621 | -1.020 | 0.307 |
| Other | 1.670 | 3.290 | 0.001 | 1.954 | 3.060 | 0.002 | 1.577 | 2.100 | 0.036 | 0.712 | -1.260 | 0.209 |
| LT HS | 7.962 | 10.340 | 0.000 | 7.641 | 6.490 | 0.000 | 4.970 | 6.140 | 0.000 | 5.050 | 4.440 | 0.000 |
| HS GED | 6.526 | 10.030 | 0.000 | 5.988 | 5.920 | 0.000 | 4.549 | 6.110 | 0.000 | 4.029 | 3.960 | 0.000 |
| MT HS | 4.634 | 8.370 | 0.000 | 4.154 | 4.710 | 0.000 | 3.502 | 5.060 | 0.000 | 3.348 | 3.510 | 0.000 |
| COL + | ref | - | - | ref | - | - | ref | - | - | ref | - | - |
| LM little no | 33.606 | 11.450 | 0.000 | 374.453 | 18.530 | 0.000 | 678.826 | 20.190 | 0.000 | 34.635 | 9.550 | 0.000 |
| LM 5050 | 12.594 | 13.890 | 0.000 | 29.143 | 15.810 | 0.000 | 30.345 | 15.090 | 0.000 | 3.120 | 3.640 | 0.000 |
| LM good | 11.624 | 16.910 | 0.000 | 18.053 | 16.040 | 0.000 | 15.985 | 14.360 | 0.000 | 3.608 | 5.310 | 0.000 |
| LM certain | ref | - | - | ref | - | - | ref | - | - | ref | - | - |

Married is the base outcome
Log pseudolikelihood = -9454.0042
Pseudo R2 = 0.3103
(Std. Err. adjusted for 3417 clusters in mothid)

As seen in the table above, the reference categories for the model were chosen to reflect deviations from mothers who are the most likely to marry, and include those who reported their likelihood of marriage as certain, had a college education or higher, and were White. Because immigration status and country of origin are confounded when added simultaneously in the model, I have used the United States as the country of origin reference group (which makes 2nd and 3rd generation immigrants the reference group for all country of origin variables). Because all 1st generation variance in relationship is explained in the 10 region codes, there is no need to include it in the model or use it as a reference group. Therefore, I have omitted 1st generation status and have selected 2st generation status as the generational reference, which means that the relative risk ratios which are reported for third generation are in comparison to the second generation immigrants only[8].

[8] The logic of this reference system was greatly aided by help from Wayne Osgood.

Findings suggest that second and third generation immigrants do not vary significantly from one another for three of the four models, including: romantic, friends, and no relationship. In the final model predicting 'separated/divorced', third generation immigrants were significantly different from their second generation counterparts. Respondents who had parents born outside of the United States were less likely to be separated from the birth father (in relation to marriage), compared to respondents whose parents were born in the USA. This finding partially conflicts with my second hypothesis, that 2nd generation women are more likely to be married compared with 3rd generation women, although the general picture of immigration status suggests that there is statistical difference between the two groups.

In regards to the second set of explanatory variables, country of origin was a significant predictor of relationship status. Every region but East Asia had a significant negative association with the outcome for at least one of the four models. This indicates that not only is being from another country compared with the United States important for predicting relationship status, being a first generation immigrant (has a country of origin other than the reference group USA) predicts significantly different relationship outcomes compared with second and third generation women for all four models. This finding supports my first hypothesis, that first generation women will be more likely to be marital or romantic relationships compared with women who have generational links to the United States.

When considering the importance of region specific migration, it appears that the country that sends the most immigrants (Mexico) is also highly predictive of relationship status. First generation immigrants from Mexico are more likely than second or third generation immigrants from the United States to be in a close relationships with the birth father. In fact, Mexican immigrants are 37% less likely to me romantic (compared with married), 78% less likely to be in no relationship (compared with married) and 81% less likely to be friends (compared with married).

The findings are less consistent for other Latin American immigrants. When compared with second and third generation mothers, women from Latin America are 62% less likely to be friends than married, and 65% less likely to be in no relationship rather than married. Immigrants from Western Europe showed more consistent and significant results. When compared to second and third generation immigrants, women from West Europe were more likely to be married compared with romantic (68% less likely to be romantic), friends (94% less likely to be friends), or in no relationship (90% less likely to be in no relationship). No cases were available to analyze the West Europe relationship for separated or divorced women.

A similar lack of cases plagued the analyses of other regions as well. North Africa (all 4 models), Sub-Saharan Africa (3 of 4 models), Eastern Europe (all 4 models), Western Asia (all 4 models), and Central and South Asia (3 models) all had insufficient cases to test the relative risk of certain relationships compared with marriage[9]. Because respondents from these areas were clustered on the marital outcome, the corresponding z value is incredibly large, and conflates the significance of the finding. The only region that had enough cases to derive meaningful statistics, but was not significant, was East Asia. This suggests that first generation women from East Asia are no different than second and third generation women born in the United States in terms of their relationship outcomes.

The odds of particular relationship outcomes associated with the control variables were in the expected directions, and were very significant. Age was a significant predictor in the model, and for every one year increase in age, there was an associated 5-10% decrease in the likelihood of being in a relationship other

[9] The lack of data to populate these cells was not because women were not from these regions, rather, the women from these places were all married. Because the n was so low for these cases, I have decided to not report these findings as predictive of the immigrant relationship generally.

than a marriage. Race was also highly useful in predicting relationship outcomes. As seen on Table 5, Black women were 2.5 times more likely than White women to be in a romantic relationship compared with a marriage. Black women were over 4 times more likely than White women to be in a friendship rather than a marriage, and they were 2.3 times more likely than Whites to be no relationship and 1.8 times more likely to be separated or divorced, all compared with being married. The findings for Asian women were only significant for the separated model, where Asian women, compared with White women, were 69% less likely to be separated rather than married. American Indians were 1 1/2 times more likely than Whites to be romantically involved rather than married, and they were nearly 3 times more likely to be friends and 2 times more likely than the White reference group to not be in a relationship with the birth father (rather than being married).

Like age and race, education was a consistently strong and significant predictor the dependent variable in all 4 models. The lower the education, the higher the likelihood of being in any type of relationship other than marriage. For poorly educated women (less than high school), the odds of being in an relationship other than marriage ranged from 5 to 8 times the likelihood of being in a marital relationship, compared with women who had a college degree or more. Even women with some college education or technical training were significantly more likely to be in non-marital relationships compared with women who had received a college degree. The odds of being in a romantic relationship, friendship, no relationship or separated ranged fro 3.3 to 4.6 times the likelihood of the marital outcome, when compared with more educated women.

Finally, the measure of relationship expectations was the most consistently powerful and significant set of predictors in the model[10]. Women who thought there was little or not chance of getting married (compared with those who said they would certainly get married), were 34 times more likely to be in a romantic relationship compared with being married, 374 times more likely to be friends, 679 times more likely to not be in a relationship, and 35 times more likely to be separated or divorced! Women who gave them selves a 50/50 chance of being married were 13 times more likely to be romantic compared with married, 29 times more likely to be friends, 30 times more likely to not be in a relationship, and 3 times more likely to be separated, all compared with women who predicted being in a marital relationship. Even among women who rated their relationship as having a ‘good chance' to turn into marriage had much higher probabilities of not being married compared with women who said they would ‘certainly’ get married. For women who thought there was a good chance they would get married, they were 12 times more likely to be romantic rather than married, 18 times more likely to be friends rather than married, 16 times more likely to not be in a relationship and 4 times more likely to be divorced, all compared with women who thought they would certainly get married.

**A further test of the findings**

To complement the multinomial regression analyses described above, I have run my models in HLM to test the robustness of the findings. Overall the findings constant across the two techniques. Rather than present all of the tables, I have created two graphs which illustrate the main findings of the HLM analyses[11].

[10] This variable had sufficient variation among all of the cross-tabulated cells, so the large z values are accurately predicting very large significance levels and relative risk ratios.

[11] I chose to complement this project by conducting a series of regression analysis in HLM so I could parse out the amount of variance explained within the individual, and between individuals due to immigration status. In order to complete the HLM work I created level 1 and level 2 data sets which contained the merged and reshaped data from three waves of data collection. The level 1 data set contained person-year observations for every mother, while the level 2 data set contained observations for mothers at time 1. I used the mother ID number as the ID for levels 1 and 2. Because marital status does not have a normal distribution like those required for a standard HLM linear regression analysis, it was important to specify a logistic model for

As seen in Figure 1., the log odds of being married increase over time. That is to say, mothers are more likely to have been married to the birth father as the opportunity for marriage (time) increases. This can be seen by the linear increase in odds presented in figure one. A second finding illustrated in Figure 2 is the nature of the similarity between the second and third generation group, and the difference between both groups with the first generation group. First generation immigrants to the United States are more likely than any other group to be married (have higher log odds). Third generation (or more) immigrants are the least likely group to married (have the lowest log odds) although this is nearly indistinguishable from the results for the second generation group, which also have low log odds of being married[12]. Although the HLM and multi-nomial approaches utilized different techniques and slightly different models, the story of immigration status and family formation remained the same, indicating a substantial robustness in the findings of family formation differences by immigrant generation.

**Figure 1.The Log Odds of Marriage Over Three Waves of Data Collection**

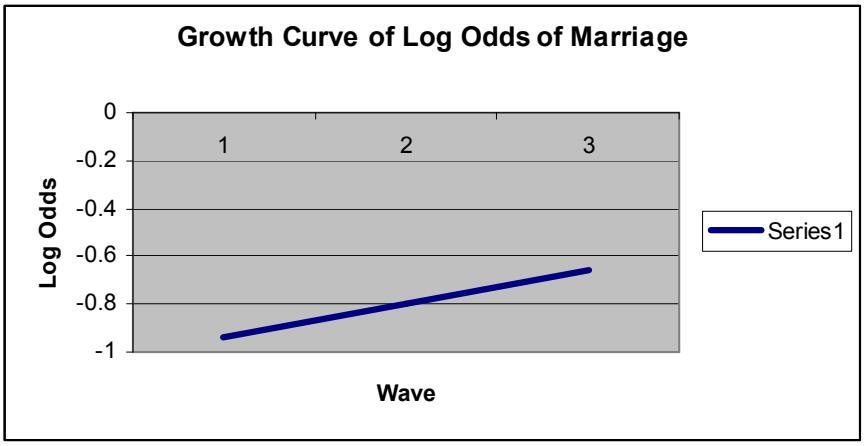
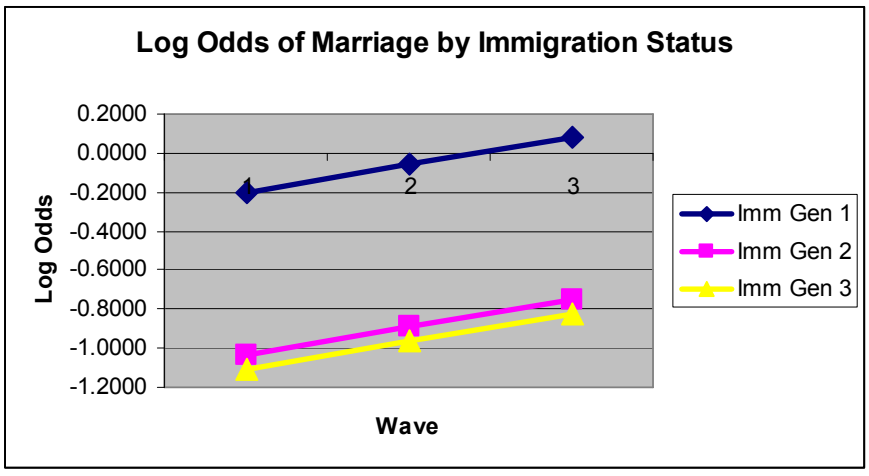



**Figure 2. The Log Odds of Marriage by Immigration Status**




my variable (0= not married, 1=married). The Bernoulli model is a type of logistic regression analysis used with dichotomous outcome variables in HLM. Rather than modeling the dependent variable directly (estimating Y for some combination of Xs), you estimate the probability that Y=1 (while still controlling for theoretically important X variables). In order to estimate the probability model that Y=1, I utilized a transformed version of the standard HLM regression equation which incorporated the logistic link function.

[12] Because the graphs were created with data from the second regression model, which only included generational status and time as predictors of marital status, they are not specific to a particular race, education or age referent.

## Discussion

Each of my hypotheses was supported by the data. My first hypothesis was that immigration status predicts unique relationship outcomes, with first generation immigrants are more likely to be in marital relationships than second or third generation women. The descriptive findings, regression results, and HLM models bore out this expectation. For all models, first generational status (as measured by region of birth rather than the US) predicted significantly different results compared with second and third generation women. Specifically, the results suggest that newcomers to the United States were much more likely to be in marital relationships compared with all other relationship types.

My second hypotheses—that second generation women are similar to native women (3rd gen plus) rather than newcomers to the United States (1st gen)—was also supported by the data, although there were some conflicting results. Descriptive evidence indicated that second generation immigrants were *not* more likely to be in marital relationships than third generation immigrants, that is, they were not significantly different from the third generation group. This finding was maintained in the regression analysis for three of the four models. The fourth model, however, suggested that second generation respondents were *less* likely to be separated from the birth father (in relation to marriage), compared with third generation women. Although this finding suggests a distinction between second and third generation women, the HLM findings and the bulk of the regression analysis indicates that there is little variation in relationship outcomes for immigrants other than those born outside of the United States.

My third hypotheses was that mother's region of birth significantly predicts relationship status. The findings reported in Table 5 confirm this expectation, with women who are born outside of the United States being significantly more likely to be in marital relationships than women who are born in the United States. This finding was significant for all sending regions, regardless of level of traditionalism, although many regions had two few cases to support a robust analysis.

## Conclusion

In conclusion, immigration status and country of origin do matter when predicting relationship outcomes. First generation immigrants are more likely to be in marital relationships when compared with second and third generation immigrants. Second and third generation immigrants had surprisingly similar relationship outcomes, and do not appear to vary significantly because of differences in assimilation or resources. Country of origin was a strong predictor of relationship status, with almost every eligible country/region predicting higher levels of marriage and lower likelihoods romantic relationship, friendship, no relationship, or separation and divorce than the United States.

These results can be understood by applying the assimilation framework, which suggests that first generation women are not fully assimilated into the dominant culture (or subculture) and have behaviors that reflect their country of origin rather than their receiving country. An analysis of region of origin further confirms that first generation immigrants are significantly influenced by where they are from in relation to the United States culture, and other immigrant cultures. Also, downward assimilation theory predicts that second and third generation women should be more similar to one another than to first and second generation women. According to Portes and Raumbaut, children of immigrants are frequently forced to live on the margins of the mainstream and as a result choose to support counter cultures that disregard White, Anglo-Saxon, Protestant values. One of the predictions of this downward assimilation is the adherence to the prevalent minority value of de-coupling marriage and childbirth.

When trying to understand the generalizability of these results it is important to remember that the women in the sample were targeted because of their unique family status—mostly unmarried mothers with a new child. These tests of relationship formation are only applicable to women who are in a similar high risk population, where poverty, race, and immigration status influence one another in predicting family level outcomes. Future research would be well served by applying a similar model of generational status and region of origin to understand relationship formation for a more generalizable sample. The results presented here are still useful, however, even though they are not widely generalizable. This paper represents a pilot project which illustrates the need to consider the importance of migration in research that deals with family formation and relationship outcomes.