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Instability Overlooked: Evidence for the Importance of Household Roster Data Collection and Matching over Time

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Table of Contents

Table of Tables

Abstract

We examine the methods used to measure household instability. Using longitudinal data from a study of low-income households, we demonstrate the importance of identifying and linking household members to ensure the accuracy of measures of household instability. Does change in household composition or instability in the form of union dissolution—measured by questions such as "Are you married?" or "How many children live in this household?"—result in differences when compared to a more in-depth examination? How much is obscured by this reliance if instability is assigned to households that change their answers to a question about marital status instead of relying on the household roster and unique person identifiers that match people over time? Our research looks beyond simply the presence or absence of one dimensional change and considers actual change in household composition. We examine how households change in the types of people living in the home and find that a significant proportion of households experience instability that is overlooked by common measures. In addition, a "false stable" category emerges. This group appears stable over time but actually experiences many compositional changes not captured by conventional methods. Moreover, the false stable differs significantly from the stable and instable households on a variety of demographic and economic measures.

Introduction

To facilitate the random selection of a respondent, social science surveys enumerate household members along with each member's age and sex (Kish 1949). Some social science surveys have added questions to the household enumeration to inform the employment status, educational attainment, and relationship to the respondent for each household member (e.g., General Social Survey, National Longitudinal Survey of Youth, Panel Survey of Income Dynamics). Several panel surveys have also created unique person identifiers so that changes in household composition may be measured over time (e.g., National Survey of Families and Households, National Longitudinal Survey of Youth 1997, Living in Ireland Survey, Adolescent Health). These data provide important contextual information about a variety of social phenomenon, including mobility; poverty; short- and long-term local, national, and international economic events; and the dynamic nature of the family, to name a few.

Panel studies provide a rich source of data to inform social science research (see Marshal and Bush 2010 for discussion regarding issues related to longitudinal research design). This paper seeks to encourage social scientists designing longitudinal research to collect sufficient details about household members at

each wave of data collection to enable linking members over time. To illustrate the value of doing so, this paper focuses on research related to marriage and the family.

Researchers have used panel data to observe households by family type and economic circumstances and have found differences in both household composition and marital status. Households with no change or natural changes associated with the lifecycle of individuals and families were observed by researchers to be "stable." Households with changes in composition that are not accounted for by the natural expansion and contraction of the family—such as births, deaths, and nest leaving—were determined to be "instable."[1] Instability is found to have a detrimental effect on the economic wellbeing of families and children. Most typically, researchers examine changes in relationship of parents, such as divorce or dissolution of a cohabiting union, and its impact on child wellbeing (Amato and Keith 1991; Brown 2005; Cherlin, Chase-Lansdale, and McRae 1998; Hetherington 2003; Meadows et al. 2009; Wallerstein and Lewis 1998). There is consistent empirical evidence that stability in family arrangements is a strong predictor of child wellbeing (Brown 2005), especially in terms of financial resources (Meadows et al. 2009). The dissolution of marriages and cohabiting unions is associated with significant declines in household income (see Meadows et al. 2009). In fact, some have concluded that it is the stability of traditional two parent families that largely provides the economic advantages observed among this group, as opposed to an inherent advantage in parenting or other characteristics (Waldfogel et al. 2010). Changes in the home brought about by other adults or children, such as extended family members and boarders, are also considered to affect the wellbeing of household members. Their movement in or out of the home influences the household income, economic hardship, and the use of housing assistance by household members (du Toit, Bachtell, and Haggerty 2011). Household composition and instability are thus important topics to social science researchers.

Background

The use of the concepts of change and instability are well documented, as is their importance in studies on households, families, and children. For example, studies on marriage and family examine instability in the form of union dissolution (divorce or break-up of a cohabiting union) and its effect on adults and children (Brown 2005; Meadows et al. 2009; South et al. 1998). Then again, change in the number of adults or children in a home are also concepts used to capture household instability. These measures are often used as controls in models that examine various topics (see Heflin and Iceland 2009 for relationship between

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[1] The authors are not making a value judgment about households when using the term "instable;" this term is used in the literature to describe a change in household composition.

depression and material hardship; and Handy et al. 2008 for outdoor play among children), and changes in the number of adults or children are found to have significant effects. The inclusion of these concepts in research suggests the importance of the concept of instability or change.

However, the measures most commonly used to identify households that experienced change or instability may be limited. Our review of the literature (see Fomby and Cherlin 2007; Fomby, Mollborn, and Sennott 2010; Frisco, Muller, and Frank 2007; Kim 2011; Wu et al. 2010) finds that the methods used to determine change or instability are either not clearly described or the concept of change is derived by using single questions at different points in time and then comparing answers rather than using more robust measures. For example, if researchers wanted to know how many people became divorced or ended a cohabiting union, they would look at questions of marital status at different points in time and conclude that a person who was married at Time 1 and not married at Time 2 experienced a divorce. It is not clear if researchers were examining the individual household members to determine a more nuanced instability that considers actual people and not number or status. Rather, they seemed to be assigning a label of "stable" if a person who was in a union at Time 1 was also in a union at Time 2. This is problematic as the measure is one-dimensional and illustrates only the presence or absence of change, but not a change in content. That is, it does not address the people in the household or the composition of the home. It is possible that someone who is married at both times could be married to a different person at each wave. These households would appear to be unchanged as their union status would not have changed. However, upon closer examination of the content of the relationship, we would find that the spouse at both times is not the same person. This would result in a change in content, but not in the classification "married." It is not clear from published research whether researchers are using the proper level of detail in their analyses. We suggest that there is a substantial amount of instability within households where the change comes from individuals in the home and not simply change in response to single measures; that is, it is possible that there is instability not captured by current research, or captured but not clearly documented.

Similarly, it is also possible that researchers are classifying a home as stable if the number of people living in the home is the same at each wave. We argue that there is instability if the makeup of the household changes, even if the number of people remains the same. For example, in low-income households it is likely that two parents take in an elderly relative, such as an aunt or uncle, to assist in living expenses. In the event of one relative moving in when another moves out, there would be no evidence of the change, numerically, if this event occurred between periods of data collection. The home, while numerically the same, may have significantly changed in composition.

We call these households "false stable"—on the surface they appear to not have changed over time, but they have experienced instability through changes in composition.

Past studies have divided households into two groups—stable and instable. Consequently, it is this third group, the "false stable," which has been overlooked. This is a serious oversight for several reasons. First, these false stable homes have been lumped into the stable category, thus blurring the characteristics of the truly stable. Many conclusions about the consequences of living in a stable versus instable home have been made, based on perhaps faulty classification. It is possible that, once the false stables are removed from those classified as stable, the latter group will become even more clearly defined, in their differences, from households that experience change. Second, as of yet, the false stables are an unexamined group of households. This group appears through traditional means to be stable, but they have experienced great change. Let us return to the above-mentioned illustration where the person was married at both times, but to different people. This is twice the instability of the instable group as there was the instability of the first union ending as well as the instability of entering into the second union. There may be something substantially different about these households that has not been examined by past studies. This calls for longitudinal researchers to identify and link household members at each wave of data collection to support a more nuanced examination of the content of household composition and relationships over time. Current research on the effects of change in household composition would benefit from a more defined, multidimensional measure of instability, if the research is not already doing so. If it is, researchers do not seem to make these methodological distinctions clear.

Current Study

We examine typical methods of measuring change and instability and compare them to a process of roster matching that utilizes unique person identifiers to answer the following two questions. First, *how much instability or change is overlooked when we look only at change and ignore content?* And second*, does a more comprehensive measure provide a better understanding of the groups that experience change?* Our purpose is to determine the extent to which instability is not accounted for by common measures and to provide a more complete measure that incorporates content as well as change.

This research is important for the following reasons. First, household instability and change over time are concepts often used in research, yet it is possible that they do not capture all change present in a home. This research will produce a better understanding of instability and differences between stable and instable households. Second, it will illustrate the importance of using a household roster to collect data on

all people in a home and to provide support for matching people across waves using unique personal identifiers for all household members.

We expect that there are changes in content not captured by the usual measures and that the rate of instability will be higher when using the new method. Moreover, we believe that this instability will result in statistical differences that reflect a significant impact on the economic wellbeing of children. Previous studies show the relevance of instability for the wellbeing of households with children. We use economic measures of wellbeing, including economic hardship, housing assistance, and household income to illustrate the importance of the nuanced measure of instability.

We test two sets of hypotheses to answer our research questions. The first group addresses the instability that is overlooked by common measures of change in household composition due to adults and children and relationship instability.

Hypothesis 1a: The common method of determining change in household adults will capture a significantly lower percentage of instability than the measure using unique personal identifiers.

Hypothesis 1b: The common method of determining change in household children will produce a significantly lower percent of change than the measure using matched roster data and unique personal identifiers.

Hypothesis 1c: The common method of determining relationship instability (i.e., divorce or dissolution of cohabiting union) will result in a significantly lower percentage of instability than the measure using unique personal identifiers.

The second group of hypotheses tests the validity of using the nuanced measure. We examine differences in the economic wellbeing of households to determine if recognizing the false stable category allows for a better understanding of differences between stable and instable households.

Hypothesis 2a: There will be significant differences in demographic characteristics between the true stable, instable, and false stable groups.

Hypothesis 2b: There will be significant differences in economic factors related to child wellbeing between the true stable, instable, and false stable groups.

Data

Longitudinal data from the *Making Connections* survey are used to compare these measures. The study was conducted in ten low-income metropolitan neighborhoods across the United States: Oakland, CA; Denver, CO; Hartford, CT; Des Moines, IA; Indianapolis, IN; Louisville, KY; Providence, RI; San Antonio, TX; Seattle, WA; and Milwaukee, WI. The survey was funded by the Annie E. Casey Foundation. The first wave of data was collected between 2002 and 2004 in all ten of the survey sites. Wave 2 for each site was completed between 2005 and 2007, and between 2008 and 2010 a third wave of data was collected in six of the ten sites (Denver, CO; Des Moines, IA; Indianapolis, IN; Providence, RI; San Antonio, TX; and Seattle, WA). The average response rates were 69 percent, 78 percent, and 80 percent at baseline in Wave 1, Wave 2, and Wave 3, respectively. The total number of interviews conducted across all three waves was 21,265 (*Making Connections* 2011).

The *Making Connections* study design is unique in that it includes both a cross-sectional and longitudinal (panel) sample. At baseline, NORC drew an area probability sample to represent each target neighborhood. In each subsequent wave, NORC identified new addresses established since the prior wave and selected a sample of these addresses to be included in the study. Interviewers visited both the existing and newly added sampled addresses at each wave to interview the current occupants of the original and newly selected addresses. This methodology yields a cross-sectional snapshot of neighborhood residents at different points in time. *Making Connections* is also considered longitudinal in that families still living in the sampled addresses were reinterviewed, and families with children that moved from the sampled addresses were found and interviewed at their new locations (*Making Connections* 2011).

Making Connections has three substantive questionnaires: a main questionnaire that collects data about the household and two child questionnaires. The main questionnaire topics include: 1) neighborhood connections, 2) neighborhood actions (including engaging in efforts to improve neighborhood conditions and perceptions of safety, disorder, and cohesion), 3) services and amenities, 4) organizations and volunteerism, 5) family hardship, 6) income and assets, and 7) demographics. Each of the two child questionnaires is age-specific: the Age 0-7 Questionnaire has an early childhood focus, and the Age 7-17 Questionnaire is more school-age focused. Both questionnaires collect data about the experiences of children living in the household, including items about child care arrangements, schooling, participation in extracurricular activities, and health; these data were collected about the focus child in the baseline and about each child in the household in Waves 2 and 3 (*Making Connections* 2011).

The data are ideal for this study as they include a roster with detailed demographic information about everyone in the household, as well as their relationship to the respondent and focal child. The focal child is a randomly selected child in the home, and the respondent, in households with children, is the person most knowledgeable about the focus child. In adult-only households, one adult was randomly chosen to be the respondent. These data are especially useful in that household roster records were compared and matched for each wave, and every person in the home was given a unique personal identifier, allowing researchers to follow the movement of people in and out of the home at an individual level (see Bachtell, English, and Haggerty 2012 for a description of the process used to match household members across waves of the *Making Connections* survey).[2]

Analytic Subset

Data from the second and third waves are used for analyses as these allow for more detailed classifications of household members' relationships to the respondent and focal child. As we are interested in the effects of instability on children, only the Wave 2 and 3 households in which children reside are included in these analyses (n=1,530). All analyses are weighted to panel households with children.

For the union dissolution analysis, we remove cases where the respondent changed between waves. The survey sampling methodology randomly selects a new focal child if the household composition changed due to the addition of new children. As the respondent is the person most knowledgeable about the focal child, it is possible that in some homes the respondent changed between waves. As the household roster collects data on the relationships of the respondent, we only included cases where the respondent remained the same. We also limited our sample to those who were in a union at Wave 2 (that is, the relationship of someone in the household to the respondent was a spouse or cohabiting boyfriend or girlfriend). We examine 935 cases and weight our analyses to the adult panel sample weight. To increase the number of observations in the analyses focused on relationship instability, we include households with and without children. It is important to note that households with children may have different instability rates than those without.

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[2] This matching was done retrospectively after data collection had ended.

Measures

Change in Household Adults

During the interview, the respondent is asked to list everyone living in the home on the household roster.[3] One roster includes everyone over age 18, while the second lists only children. The first measure counts the number of adults on the household roster at Waves 2 and 3. The variable is coded (0) if the number of adults at Wave 2 is the same at Wave 3—i.e., stable—and (1) if the number of adults at Wave 2 is not the same at Wave 3, or instable.

The second measure uses the unique person identifier. The number of adults along with their identifiers at Wave 2 is compared to the data at Wave 3 to determine if the same adults are present. The variable is coded (0) if the same adults are present in both waves, or stable; (1) if there has been numeric change (e.g., in Wave 2 there were three adults and in Wave 3 there are four adults), or instable; and (2) if there is no numeric change, but the composition has changed. These are the false stable. For example, if Uncle Joe moved out and Aunt Mary moved in, then the households are numerically the same, but compositionally different.

Change in Household Children

The first measure is simply a count of the number of children under age 18 on the household roster at Wave 2 and then again at Wave 3.[4] This variable is coded (0) if the count of children at Wave 2 is the same at Wave 3 and coded (1) if there has been numeric change.

Again, the second measure considers the unique person identifier. The unique identifiers of children at Wave 2 are compared to the unique identifiers at Wave 3 to determine if the same children—numerically and by identifier—are present in both waves. The resulting variable is coded as follows: (0) if the same children are present in both waves, or stable; (1) for cases where there has been numeric change, or instable; and (2) where the same children measured by a unique identifier are not present in both waves, or false stable.

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[3] Respondents are asked to include roomers and anyone else who usually stays in the home, even if they are away at school, on a business trip, in the military, and so on.

[4] We do make allowances for children who have moved from the child roster onto the adult roster so as not to misrepresent these cases as instable.

Relationship Instability

We have two measures of relationship instability. First, we use the conventional measure that relies on the respondent's relationship status. The respondent is asked to list the relationships of everyone on the household roster to the respondents and focal child.[5] Everyone in our analytic subset is in a married or cohabiting union at Wave 2. For Wave 3, a difference in union status between responses gives us the typical measure of relationship instability. That is, if a respondent is classified as being in a union in Wave 2 but not in a union at Wave 3, then they are coded as having experienced relationship instability (1). If they are in a union in both waves, then there is no instability—i.e., stable—and coded as (0).

The second measure of instability considers the unique person identifiers. We examine not only the respondent's union status at each wave, but also the identifier of their spouse. If they are in a union at both waves, the identifier of their spouse or partner has to match up at each wave. If the respondent is no longer in a union, then they are classified as (1), instable. Conversely, if the respondent is in a union at each wave and the identifiers of the spouse or partner are the same, then it is typically classified as stable and coded (0). However, if the respondent is in a union at each wave but the identifier does not match, then we classify this as a third group (2), or false stable. In the typical measure of relationship instability, these cases would normally fall into the stable group. For an illustration of the personal identifiers used to identify false stable relationships, see Table 1.

Dependent Variables

We use demographic and economic factors from Wave 2 to test the validity of using the new measure of instability. For analysis on adults and children, we use household-level variables. *Percent All Female Households* indicates households where all the adults are women. For *Race* we use the respondent's race as a proxy for household race. We also use respondent's ethnicity as a proxy to classify households as *Hispanic.* We include *Number of Children* and *Number of Adults.*

To determine economic wellbeing, we examine data from the following questions: *"During the past 12 months, did you (or any member of your household) not fill or postpone filling a prescription for drugs when you (or another member of your household) needed them?"; "During the last 12 months, was there a time when (you/you and your family) were not able to pay your mortgage, rent, or utilities?";* and *"Has your phone been cut off in the last 12 months due to non-payment of bills?"* These were used to create a binary variable that indicates the presence of at least one Economic Hardship.

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[5] The list includes husband/wife, girlfriend/boyfriend, parent, in-law, aunt/uncle, son/daughter, foster child, niece/nephew, grandson/daughter, cousin, roomer/boarder, housemate/roommate, other non-related person, brother/sister, and grandparent.

The survey also asks questions on housing assistance. These include: *"Are (you/you and your family) paying lower rent because the federal, state, or local government is paying part of the rent?"; "Is the building owned by a public housing authority?";* and *"Did a public housing authority or some similar agency give you (or any member of your household) a Section 8 or voucher to help pay the rent for this apartment or home?"* We create a variable that flags households that use any type of Housing Assistance.

The analysis also includes a variable that measures the *Ratio of Employed Adults* to people in the home. The household roster questions capture whether or not the people listed are employed, in job training, laid off, unemployed, retired, disabled, a homemaker, student, or something else. We use the number of employed adults on the roster, along with a count of all people living in the household, to find the ratio of employed adults to everyone in the home. The survey also collects data on household income, for which we created a *Log of Household Income*. We use the log of income as this low-income population has a non-normal income distribution.

We also include measures of household composition. These indicate the types of adults and children living in the home at Wave 2, such as grandparent, relative, etc. These relationships are coded in terms of their connection to the focal child. It should be noted that the parent's spouse or cohabiting partner, if not the parent of the child, will be coded as a non-relative roommate to the child.

For the analysis on respondent's relationship instability, we use respondent characteristics that are usually of interest to studies on household composition and child wellbeing (Manning and Brown 2006). These include *Sex, Age, Race, Education, Employment,* and *Number of Children.* We also include the economic variables, *Economic Hardship*, *Housing Assistance,* and *Log of Household Income.*

Analytical Strategy

First we determine the extent of instability for each concept (change in adults, change in children, and relationship instability) using the conventional method. Next we find the rates of instability using the proposed method based on the personal identifiers. Then we test to see if the differences are significant. Next we examine demographic and economic variables to see if differences in the measures result in significant discrepancies in the dependent variables. We use t-tests and chi-squared analysis to test significance at the $p<0.05$ level.

Results

Data presented in the Appendix include the unweighted frequencies and weighted proportions and means.

Comparison of Measures

Table 2 shows how results vary using the usual method and personal identifiers. For all three areas of interest—change due to adults, children, and relationships—there is a significant decline in the proportion of households that appear to be stable when we look at the content of the home. For adults and children, the usual method looks only at the numeric change, while the personal identifiers capture changes in the content of the home. For adults, 8 percent of households experience false stability, significantly reducing the stable group from 54 percent (usual method) to 46 percent (personal identifier). So while these homes experienced no numerical change in number of adults, the people living in the house are not all the same at both waves. While the difference in change due to children is not as large (2 percent false stable), the proportions for the stable group are nonetheless significantly different. This shows that there are households that experience change not captured by the usual methods, but are highlighted when we use the personal identifiers.

Table 2 also shows the results for relationship instability among respondents in a married or cohabiting union at Wave 2. Here we present findings for all respondents in a married or cohabiting union (n=935) as well as for respondents with children at Wave 2 (n=626). For both sets, we see a significant difference in the percent stable using the different measures. We find that the usual method shows that 85 percent of respondents in a union at Wave 2 are in a union at Wave 3. However, examination of the personal identifiers shows that 3 percent of all respondents coupled at Wave 2, while also in a union at Wave 3, were not with the same spouse or cohabiting partner. The results for respondents with children are slightly higher, with 4 percent falling into the false stable category. This means that there are a handful of respondents who broke up or divorced after Wave 2 and then formed a new union by Wave 3. This instability is not demonstrated by the usual method and only brought to light by the use of personal identifiers.[6]

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[6] For all other analyses, we use all respondents in a union at Wave 2 (n-935), not only those with children. We do this to maintain the greatest number of cases. Also, our purpose is to illustrate differences in the measures, not to make inferences about the unions of parents. Other analysis on relationship instability could examine only those respondents with children.

Change in Household Adults

Table 3 presents household and economic factors for the stable, instable, and false stable groups for analysis on change in adults. We find that not only do stable households differ significantly from instable homes on a variety of measures, but that they also differ from the false stable. The truly stable homes have a greater proportion that is all female (35 percent) than both the instable (29 percent) and false stable (16 percent). The stable also consist of significantly more Black households (22 percent) than the instable (16 percent). Conversely, they include fewer Other race (39 percent) than the instable (46 percent) and false stable (53 percent) groups. The stable are also less Hispanic (42 percent) than the other two groups (52 percent and 59 percent). Their households also consist of fewer adults (1.79 compared to 2.33 and 2.52). In terms of economic factors, significantly fewer stable households (43 percent) use any type of housing assistance than instable homes (52 percent). Then again, the mean ratio of employed adults to people in the home is significantly lower for stable households (0.33) than the false stable (0.42).

While stable homes are significantly different from the instable and false stable, interestingly, the false stable is also different from the instable on two measures. The false stable has significantly fewer all female households (16 percent compared to 29 percent), and the mean ratio of employed adults (0.42) is much greater than that of the instable (0.33).

We examined these groups to see what types of adults were living in the home at Wave 2 (Table 4). Again, we find that the stable group differs significantly from the instable and false stable. Stable households have significantly fewer no parent homes (7 percent) than the instable (10 percent) and false stable (14 percent), and fewer one parent homes (41 percent) than the instable (48 percent). On the other hand, the stable have a significantly greater proportion of two parent homes (52 percent) than the instable (42 percent), but they are not much different to the false stable (54 percent). The stable also have fewer grandparents, extended family, adult siblings, and non-related people living in the home than both the instable and false stable groups (see Table 4).

The false stable is also significantly different from the instable group in terms of the people living in their homes. The false stable have fewer one parent homes than the instable (32 percent versus 48 percent), but more two parent compositions (54 percent compared to 42 percent). However, the false stable have twice the adult siblings (30 percent) living in the home than the instable group (15 percent). This is interesting because it appears that on a few measures the false stable look like the instable, yet on other factors they are quite different.

Change in Household Children

Table 5 presents our findings on changes in household children. While we tested for significant differences, it is important to keep in mind that the false stable group has few cases (n=35). Nonetheless, the focus here is on enriching our understanding of the truly stable group, and the removal of the false stable makes the findings for the truly stable more robust.

We find that the stable group differs significantly from the instable on a few measures. The stable consist of fewer Other race (41 percent) and Hispanic (45 percent) households than the instable (48 percent and 52 percent). On average, these households also have significantly fewer children (1.95) and adults (2.03) than the instable (2.17 and 2.20). For economic measures, the mean log of income for the stable homes (9.92) is also higher than the instable (9.81), and the difference is significant.

The stable also differs from the false stable in terms of the proportion of all female households (29 percent compared to 46 percent) and number of children (1.95 versus 3.10). In addition, fewer stable (46 percent) households have housing assistance than the false stable (67 percent). Also, the ratio of employed adults and log of household income is higher for the stable than false stable group (see Table 5).

When comparing the false stable and instable groups, we find that there are more children in the false stable homes (3.10 compared to 2.17). Similarly, the ratio of employed adults is lower for the false stable (0.20) than the instable (0.33).

Table 6 presents the household child composition by level of instability. Due to the number of cases, we only tested for significant differences for the sibling and extended family categories. We find that there is no difference between the stable and instable in terms of siblings in the home, but the false stable has significantly more siblings in the home (83 percent) than the other two groups (58 percent and 57 percent, respectively). There are also significant differences in the proportion of extended family children living in the home, with stable having the fewest (1 percent) and false stable the most (19 percent). All three groups are significantly different from each other (keeping in mind the few false stable cases).

Relationship Instability

Table 7 presents the findings on relationship instability for all respondents who were in a union at Wave 2. The results show that respondents in truly stable unions are significantly different from the instable. For example, stable unions have fewer respondents who are female (70 percent) than the instable group (82 percent). The stable are also more educated, with a greater proportion of them having more than a

high school education (39 percent) than the instable (31 percent). With economic factors, fewer respondents in stable unions than those in instable unions experienced economic hardship (39 percent compared to 53 percent) and used housing assistance (22 percent as opposed to 38 percent). The stable also have greater mean log of income (10.29) than the instable (10.05), and differ from respondents in false stable unions as well. The stable tend to be older (43 compared to 37 years), have fewer using any type of housing assistance (22 percent as opposed to 38 percent), and have greater average log of household income (10.29 versus 9.73).[7] We did some analysis to discover which type of unions were more or less stable (Table 8), and found that respondents who were married at Wave 2 (n=801) were more stable (85 percent) than the cohabiters (62 percent, n=134). The proportions were significantly different. We also found that there were more false stables among the cohabiters (5 percent compared to 3 percent), but the findings were not significant.[8]

Discussion and Conclusion

Many social science surveys already enumerate household members to facilitate respondent selection. Several panel surveys determined during the design stage that it was important to capture changes in household composition and used personal identifiers to track household members over time. The dataset we used for our analyses did not include this feature as part of the initial study design but did examine household rosters to create personal identifiers and then link the household members after the third wave of data collection. While this is a non-trivial task, taking the time to do this results in data that facilitates a clearer picture of household composition and supports analyses that provide insight into changes in household structures and their impact on the family. The findings described here support the importance of building this into the initial survey design, and, if overlooked initially, undertaking the task even after the study is over.

These findings also support the use of linked household roster data to enable discovery of the more nuanced changes in household composition. If linked household roster data for all members of the household are available, this research points to the importance of using this data. The current literature is not always clear about how the data are being used, that is, whether or not single measures or linked data are used for the research. This research demonstrates that the more robust measures are needed to acknowledge false stables; therefore, it is important to use them and to document how the measures were

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[7] The results for comparisons with the false stable should be interpreted with care due to the low number of false stable respondents.

[8] Among the false stable (n=30), we found that 80 percent (n=24) were married at Wave 3, while 20 percent were cohabiting.

constructed. Doing so allows an evaluation of the quality of the research and allows others to reproduce the results.

In addition, by testing these two different methods of measuring instability, we have found a false stable group that clouds results for the truly stable households. These findings support our hypotheses that 1) the usual methods of measuring change in households are significantly overestimating the proportion of stable households, 2) there is a false stable group that is overlooked by conventional means, and 3) the false stable is significantly different from both the stable and instable on a variety of measures.

Implications

There are costs associated with roster matching and linking, whether or not the initial survey design includes and plans for this feature or if it is done retrospectively. Interviewers need to be especially trained to capture these potential changes in household composition. Most important is the negative substantive impact on research undertaken without the benefit of the nuanced data available when personal identifiers are associated with household members, allowing for a more complete understanding of household composition.

Limitations

It is important to note that this study has a few limitations. The study aims to understand disadvantaged urban neighborhoods; therefore, the sample only includes households in poor urban communities, and there is no comparison group that includes higher-income families. The neighborhoods selected to be included in this study are not representative of the nation's poor. However, as the preponderance of multigenerational and extended households is greater in low-income than higher-income communities (Barnett 2008), this is likely the group most affected by these issues and thus more notable for study.

The false stable group represents a very small number of cases for relationship (n=30) and change in household children (n=35). However, these represent households with many individuals. For example, the false stable households experiencing change in children include 104 children who should be examined in future research.

Finally, while these data are a vast improvement over household composition data that are not matched and linked, even these data underrepresent levels of instability. This is because they are based on

individuals present in the household at three points in time over a ten-year period and do not account for changes in household composition in between the three data collection periods.

Future Research

We now know that there are many households experiencing false stables where there are no numeric changes, but rather changes in composition. Future research could examine what these compositional changes entail. For example, *what are the causes and consequences of this false stable group?* That is, someone moved out and someone else moved in. These new people bring with them different economic factors, as illustrated by the differences reported in this paper, but there are also potential unmeasured characteristics. *Why are they moving in or out? In what other ways, besides economic measures, do the false stables blur the characteristics of the truly stable?* If it is possible to build into the design of a panel survey a subsample from which data are collected about all household compositional changes—that is, changes that occur in between data collection periods—further analyses would illuminate the full extent to which household composition changes occur and how these changes impact the substantive issues being studied.

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Table 1. Example of Unique Person Identifiers for Wave 2 and 3 as They Relate to Measures of Relationship Instability

Common Way (single measures)			New Way (personal IDs)				False Stable
Wave 2	Wave 3	Instability between Waves	Wave 2	Wave 3	Do the IDs Match?	Instability between Waves	
Married or Cohabiting	Married or Cohabiting		Married or Cohabiting ID*	Married or Cohabiting ID*			
Yes	Yes	No	61116380C	61116380D	No	Yes	False stable
Yes	No	Yes	61116810C	.	No	Yes	.
Yes	Yes	No	61116820H	6116820H	Yes	No	.
Yes	Yes	No	61810210A	61810210D	No	Yes	False stable
Yes	No	Yes	61810450A	.	No	Yes	.
Yes	Yes	No	61810450A	61810450F	No	Yes	False stable
Yes	Yes	No	61810970A	61810970A	Yes	No	.

*This is the ID of the person on the roster identified as respondent's spouse or partner.

Table 2. Relationship Instability and Change in Adults and Children between Wave 2 and Wave 3: Comparing Results by Measure of Instability

	Usual Method	Personal IDs
Change in adults in households with children (unweighted n=1,530)		
Stable - % no change in adults between waves	54*	46*
Instable - % change in adults between waves	46	46
False stable - % change in content, but not number of adults		8
Change in children in households with children (unweighted n=1,530)		
Stable - % no change in children between waves	59*	57*
Instable - % change in children between waves	41	41
False stable - % change in content, but not number of children		2
Relationship instability (unweighted n=935)		
Stable - % no union dissolution	85*	82*
Instable – % union dissolution	15	15
False stable – % union in both waves, but not same union		3
Relationship instability for households with children (unweighted n=626)		
Stable - % no union dissolution	85*	81*
Instable – % union dissolution	15	15
False stable – % union in both waves, but not same union		4

*$p<.05$, comparing row proportions for stable category across methods.

Table 3. Wave 2 Household Characteristics and Change in Adults

Household Characteristics	Change in Adults		
	Stable	**Instable**	**False Stable**
Unweighted number of cases	704	697	129
Frequencies			
% All female household	35*‡	29*†	16‡†
% White (proxy)	39	37	32
% Black (proxy)	22*	16*	15
% Other race (proxy)	39*‡	46*	53‡
% Hispanic (proxy)	42*‡	52*	59‡
% At least one economic hardship	53	57	59
% At least one type of housing assistance	43*	52*	37
Means			
Number of children in household	2.05	2.09	2.02
Standard deviation	1.01	1.09	1.14
Number of adults in household	1.79*‡	2.33*	2.52‡
Standard deviation	0.69	1.04	0.80
Ratio of employed adults	0.33‡	0.33†	0.42‡†
Standard deviation	0.20	0.21	0.20
Log of household income	9.91	9.82	9.95
Standard deviation	0.90	0.87	0.98

NOTE: We use race/ethnicity of respondent as a proxy for household race/ethnicity.

*$p<.05$, comparing stable to instable.

‡ $p<.05$, comparing stable to false stable.

† $p<.05$, comparing instable to false stable.

Table 4. Wave 2 Household Composition and Change in Adults

Types of Adults in the Home[a]	Stable	Instable	False Stable
Unweighted number of cases	704	697	129
% No parent in the home	7[*][‡]	10[*]	14[‡]
% One parent[b]	41[*]	48[*][†]	32[†]
% Two parents[c]	52[*]	42[*][†]	54[†]
% Grandparents	11[*][‡]	25[*]	26[‡]
% Extended family (aunts, uncles, etc.)	3[*][‡]	19[*]	12[‡]
% Adults siblings	5[*][‡]	15[*][†]	30[‡][†]
% Non-related adult (roomer, boarder, etc.)	3[*][‡]	10[*]	9[‡]

[a] Categories determined by their relationship to the focal child.

[b] This does not mean that there is only one adult in the home, but rather that there is only one parent in the home. Also, for some few cases the parent is married or cohabiting with someone in the home who is not the child's parent.

c These parents could be married or cohabiting. There were not enough cases to allow for this distinction in analysis.

[*]$p<.05$, comparing stable to instable.

[‡] $p<.05$, comparing stable to false stable.

[†] $p<.05$, comparing instable to false stable.

Table 5.   Wave 2 Household Characteristics and Change in Children

Household Characteristics	Change in Children		
	Stable	**Instable**	**False Stable**
Unweighted number of cases	850	645	35
Frequencies			
% All female household	29‡	32	46‡
% White (proxy)	39	35	45
% Black (proxy)	20	17	23
% Other race (proxy)	41*	48*	32
% Hispanic (proxy)	45*	52*	52
% At least one economic hardship	52*	60*	65
% At least one type of housing assistance	46‡	47	67‡
Means			
Number of children in household	1.95*‡	2.17*†	3.10‡†
Standard deviation	0.97	1.12	1.15
Number of adults in household	2.03*	2.20*	2.09
Standard deviation	0.86	0.96	1.19
Ratio of employed adults	0.35‡	0.33†	0.20‡†
Standard deviation	0.21	0.20	0.16
Log of household income	9.92*‡	9.81*	9.56‡
Standard deviation	0.89	0.87	0.77

NOTE: We use race/ethnicity of respondent as a proxy for household race/ethnicity.

*$p<.05$, comparing stable to instable.

‡ $p<.05$, comparing stable to false stable.

† $p<.05$, comparing instable to false stable.

Table 6. Wave 2 Household Composition and Change in Children

Types of Children in the Home[a]	Stable	Instable	False Stable
Unweighted number of cases	850	645	35
% Parent[b]	<1	0	0
% Sibling	58[‡]	57[†]	83[‡†]
% Extended family (cousins, etc.)	1[*‡]	7[*†]	19[‡†]
% Non-related child (roomer, boarder, etc.)	<1	1	2

NOTE: Significance tests only done for siblings and extended family.

[a] Categories determined by their relationship to the focal child.

[b] Some parents of the focal child are under age 17, so considered a child.

[*] $p<.05$, comparing stable to instable.

[‡] $p<.05$, comparing stable to false stable.

[†] $p<.05$, comparing instable to false stable.

Table 7. Wave 2 Characteristics and Relationship Instability of Respondent

Respondent Characteristics	Relationship Instability of Respondent		
	Stable	Instable	False Stable
Unweighted number of cases	763	142	30
Frequencies			
% Female	70*	82*	73
% White	50	44	41
% Black	10	13	6
% Other race	40	43	53
% Hispanic	42	47	51
% Less than high school	29	33	35
% High school	31	36	39
% More than high school	39*	31*	26
% Employed	62	57	67
% At least one economic hardship	39*	53*	52
% At least one type of housing assistance	22*‡	38*	38‡
Means			
Age	42.79‡	41.05	36.65‡
Standard deviation	14.85	15.96	13.17
Number of children	1.38	1.53	1.67
Standard deviation	1.31	1.46	1.26
Log of household income	10.29*‡	10.05*	9.73‡
Standard deviation	0.81	0.91	0.89

*$p<.05$, comparing stable to instable.

‡ $p<.05$, comparing stable to false stable.

† $p<.05$, comparing instable to false stable.

Table 8. Instability among Those in a Union at Wave 2 by Type of Union

Union Instability between Waves	Married at Wave 2	Cohabiting at Wave 2
Unweighted number of cases	801	134
% Stable	85*	62*
% Instable	12†	33†
% False stable[a]	3	5

[a] These respondents could have moved into any union at Wave 3.

*$p<.05$, comparing proportions across categories.

†$p<.05$, comparing proportions across categories.