

# ASPE RESEARCH BRIEF

OFFICE OF THE ASSISTANT SECRETARY FOR PLANNING AND EVALUATION  
OFFICE OF HUMAN SERVICES POLICY - U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

*This study examines the nature and extent of instability for children and their families using nationally representative data on nearly 15,000 children, and is the first in a series of briefs on family instability. By exploring measures of instability across domains—including employment, income, children’s health care coverage status, residential moves, and changes in family and household composition—we document how frequently children across the socioeconomic spectrum experience change. In line with other research analyzing instability by socioeconomic status, we find significant differences in the prevalence of instability by household education level. Although children in households at all education levels experienced instability, children in the less-educated groups experienced it with much greater regularity. However, trends did not strictly track with education level. Households with “some college” were most similar to the two lowest-education groups (“less than high school” and “high school only”) rather than to the highest (“college plus”). Moreover, the “some college” group had the most instability in two of the seven domains examined and was disproportionately represented in the highest levels of a cumulative instability index.*

## EXPLORING CROSS-DOMAIN INSTABILITY IN FAMILIES WITH CHILDREN

Many American children experience instability in their family life, including whom they live with, where they live, and how much money is available to the household. Studies in a range of disciplines document the high levels of instability for many families and the negative effects this insecurity can have on child development, adult well-being, and family self-sufficiency.<sup>1</sup> The issue of family instability is important to federal and state policy because the design and implementation of family-support policies can help mitigate—or exacerbate—it. Therefore, cross-domain instability in families with children calls for careful analysis and an attempt to understand fully the prevalence and breadth of instability, as well as the reasons for it.

Researchers generally recognize the complexity and interconnections among dimensions of family instability. Losing a job can lead to the loss of a home, for example, or the departure of a family member can lead to a drop in household income, among other changes. However, most empirical research addresses only one or two dimensions of instability, such as income volatility or changes in family composition.<sup>2</sup> Therefore, these studies may underestimate the cumulative nature of family instability and understate its prevalence among children and the households in which they live.

This brief complements existing family instability research by documenting the nature and extent of “shocks,” or incidents of negative and substantial change for children, across

### ABOUT THIS RESEARCH BRIEF

*This is the first in a series of briefs that will address instability among different groups in the U.S., including children in households at different education levels and in different race-ethnic categories and locations. This ASPE research brief was written by Pamela Winston (ASPE, Office of Human Services Policy), Lincoln Groves (ASPE, Institute for Research on Poverty, University of Wisconsin-Madison), and Linda Mellgren (consultant). It examines the extent and nature of cross-domain instability among U.S. children and households.*

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interconnected domains of family life. Our work is descriptive and cannot untangle the causal relationships among multiple instability shocks, such as how they may “cascade” or interconnect in other ways.<sup>3</sup> It also does not address their ultimate impact on child and family well-being. Instead, it provides a snapshot of the type, prevalence, and cumulative nature of instability among a nationally representative sample of children and their households over a five-year period. It also lays the groundwork for further research exploring instability among subgroups and across geography and time, interconnections among types of instability, and implications of cumulative instability for the well-being of children and families, and for the design of self-sufficiency programs that serve them. This data brief is the first in a series. Future briefs will examine trends by racial-ethnic group and geography, as well as the circumstances of households with “some college,” who showed distinctive patterns.

Consistent with other research, this study finds significant differences in the prevalence of instability by a household’s education level. Although children in households at all education levels experienced instability across key domains of family life, those in lower education groups experienced the most. However, these groups varied in ways that did not strictly track with education. This variation was primarily driven by households with some college, whose results in some areas were more similar to the two bottom groups than to the top group, those with college degrees or more. Moreover, this education group had the most instability in two of the seven broad domains we analyzed, and they experienced the highest level of cumulative cross-domain instability.

## APPROACH

We used five years of panel data from the 2008 Survey of Income and Program Participation (SIPP). By following nearly 15,000 children and analyzing trends from 2008 to 2013 across households in four education groups, we documented the extent to which children across the socioeconomic spectrum experienced multiple types of instability at any point during the five-year period that were potentially detrimental to their development.<sup>4</sup> This section outlines the research questions, key definitions and measures, and study design decisions.

### Research Questions

The study addressed two main questions:

1. How are instability shocks distributed by domain among children and their households across household education levels?
2. What does an index of cumulative instability—similar to that used in the Adverse Childhood Experiences (ACEs) study (Felitti et al. 1998; CDC 2016)—indicate about the extent of cross-domain instability for children and their households across education levels?

### Definitions

Family instability involves a complex set of interrelated topics, and a full exploration of the concept was beyond this project’s scope. Certainly, not all change is negative. However, high levels of change, even when some incidents may be positive, are likely to be disruptive and stressful for children and their families (Moore et al. 2000; Sandstrom and Huerta 2013, among others). Frequent shocks are, on average, likely to be detrimental to child development and family well-being.

This study was guided by Sandstrom and Huerta’s (2013) definition of family instability:

[T]he experience of change in individual or family circumstances where the change is abrupt, involuntary, and/or in a negative direction, and thus is more likely to have adverse implications for child development.

We examined the nature and extent of instability for children and the families in which they live across seven interconnected domains: household employment, earnings, income, children’s residence, children’s health care coverage status, and family and household composition (see Table 1 for the domains and specific measures available in the SIPP data set).<sup>5</sup> This is not a comprehensive list of all the important areas of family instability. Domains such as education, health and mental health status, disability, and justice involvement, among others, are also critical and are often closely related to those we studied. However, the nationally representative data set we employed contains longitudinal data on the seven dimensions we explored, not these others.

**Table 1. Domains of Family Instability and Associated Study Measures**

<b>Domain</b>	<b>Measure</b>
Household employment	Loss of a full-time worker (35+ hours/week)
Household income	Income for a child’s household (including government transfers) that falls more than 25% below the average household income during the entire period analyzed for that child
Household earnings	Labor force earnings for a child’s household that falls more than 25% below the average household earnings during the entire period analyzed for that child
Child residential moves	Child moves from one residence to another
Child health care coverage	Loss of child’s private or public health care coverage
Family composition	Change (gain or loss) in the child’s biological nuclear family within the household
Household composition	Change (gain or loss) in the number of people living in the household

For income and earnings measures, we defined a “shock” as a decline of 25 percent or more from the household sample average for the individual child. Other studies also use a 25 percent threshold (Hannagan and Morduch 2016; Pew Charitable Trusts 2015; Hardy 2014), and it is large enough to affect well-being in many households.<sup>6</sup>

The study categorized children by their household’s education, specifically the level of the most educated household member at the time of the baseline survey.<sup>7</sup> The four education groups are:

- Less than high school
- High school only
- Some college, and
- College plus (a bachelor’s degree or greater)

The appendix provides additional detail on these measures and their limitations.

### **Key Study Decisions**

The 2008 panel of the SIPP offers a unique opportunity to examine cross-domain measures of instability for children in households over an extended period (five years).<sup>8</sup> Further, it provides nationally representative survey data. Study design decisions included:

- Using children as the unit of analysis; we followed children and any transitions they made across households over the course of the survey;
- Limiting the sample to children under age 13 at the start of the survey so they did not age into adulthood during the study;

- Further restricting the sample to children who appeared in eight or more waves of the survey, resulting in 32 or more months of data for each child (to a maximum of 64 months);
- Assigning children to categories on the basis of household education (the level of the most-educated household member) at the beginning of the study.

Consistent with these decisions, the study followed 14,767 children and their households. This sample represents approximately 75 percent of those who participated in the SIPP panel at its start, and it provides more than 800,000 monthly observations for analysis.<sup>9</sup> Approximately 11 percent of these children were in Less Than High School households, 17 percent were in High School Only households, 37 percent in Some College households, and 35 percent in College Plus.

### Cumulative Instability Index

For the index of cumulative instability we adapted the ACEs framework (Felitti et al. 1998; CDC 2016) to estimate a cumulative measure of shocks across the instability domains. The ACEs study links information about the prevalence of adverse childhood experiences to adult health outcomes using a seven-point index (0, 1, 2, 3, 4+) that summarizes participants' experiences with different types of adverse incidents. We adapted this method for this study's index of cumulative instability, which is composed of five components that reflect the overall study measures:<sup>10</sup>

- Loss of a full-time worker
- Loss of household income (earnings and transfers) of more than 25 percent relative to the average for the entire period
- Loss of the child's health care coverage
- Move by the child
- Change in household composition (gain or loss)

Similar to the ACEs index, if a child ever experienced a particular instability incident or shock during the study period, he or she scored a 1 for that domain (0 if not). These scores were summed to calculate the index.<sup>11</sup> We then analyzed the cumulative index scores by the child's household education level. The appendix provides additional information about the study sample and methods, including data and methodological limitations.

## FINDINGS

We first present findings on how instability shocks *within domains* were distributed among children by household education level. We then examine how children at the varying household education levels experience cumulative instability *across the domains explored*.

### Instability Shocks among U.S. Children by Domain

#### **In all domains, a substantial proportion of children experienced instability shocks.**

Instability was not confined to those in lower education households. Children across the household education spectrum experienced relatively high rates of instability during the study period. Table 2 shows the proportion of children who ever experienced a particular shock during the study's time span (instability in individual domains is addressed below).

**Table 2. Proportion of Children Experiencing a Shock, by Domain and Education Level (2008-2013)**

Education Level	Loss of Full-Time Worker	Income Loss of > 25%	Earnings Loss of > 25%	Loss of Child Health Care Coverage	Child Move	Change in Family	Change in Household
< High School	81%	93%	79%	35%	40%	46%	60%
High School	75%	88%	75%	42%	37%	42%	54%
Some College	74%	85%	75%	44%	40%	37%	51%
College Plus	59%	73%	68%	28%	26%	28%	38%

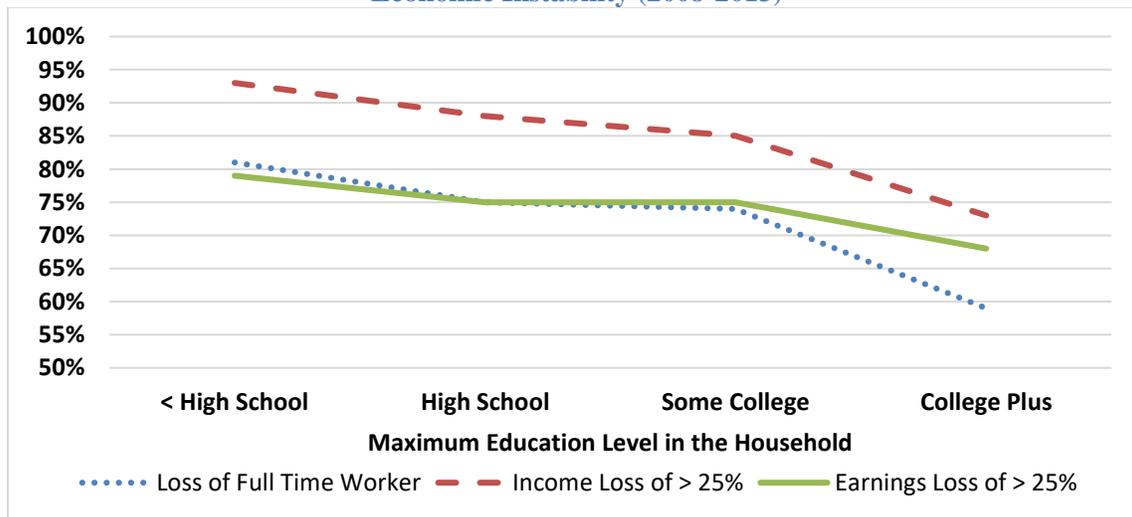
Although we found instability in all domains, increases in education level are expected to increase stability. As anticipated, children in College Plus households had the lowest levels of instability across domains, and all findings for these children were statistically distinguishable from those for all other children at the 1 percent level of statistical significance.

The recession from 2007 to 2009 undoubtedly contributed to the rates of instability during the analysis period (2008-2013). Large economic shocks can differentially affect household employment and income, child health care coverage, child moves, and changes in household composition across household types. For example, other research shows that unemployment rates increased across education groups from 2007 through 2009, but more for the Less Than High School and High School Only groups than for the Some College and College Plus groups (Elsby et al. 2011).<sup>12</sup>

**A majority of children lived in households that experienced economic instability, with rates differing by household education.**

Overall, the proportion of children living in households that experienced economic instability during the five-year study period—including loss of a full-time worker or loss of income or earnings—declined as education levels increased. The proportion of children in households that lost a full-time worker was 81 percent for the Less Than High School group, declining to 75 percent for High School Only and 74 percent for Some College, to 59 percent for College Plus (see Figure 1).

**Figure 1. Proportion of Children Experiencing Economic Instability (2008-2013)**



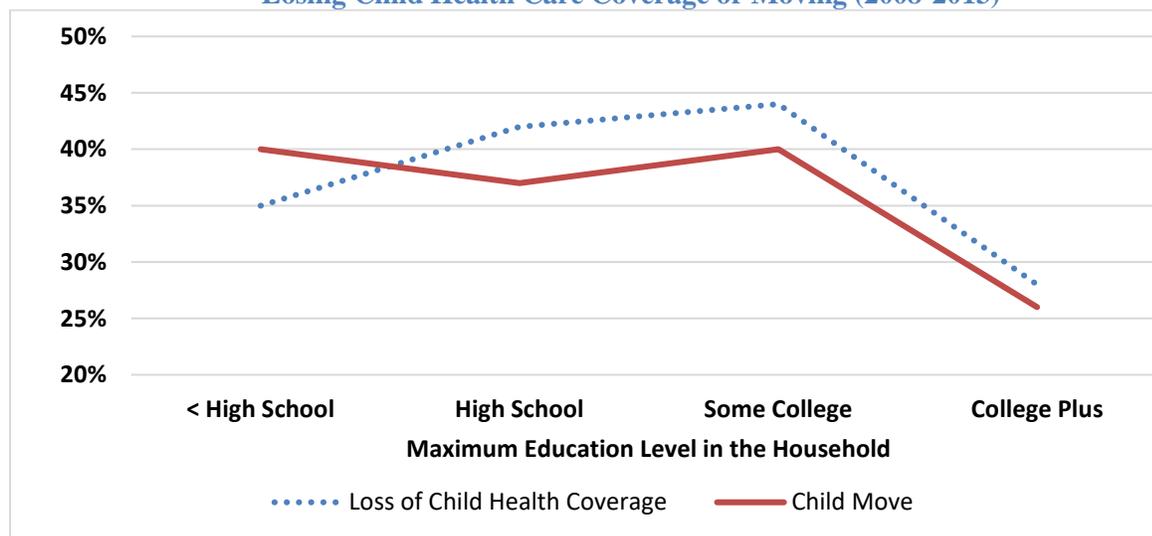
Similarly, 93 percent of children in Less Than High School households experienced income losses, declining to 88 percent for High School Only, 85 percent for Some College, and 73 percent for those in College Plus households. However, 75 percent of the children in both Some College and High School Only groups experienced earnings losses.

We did not anticipate the similarities between the Some College group and the lower two educational categories, given that additional years of education should be expected to increase earnings and, in turn, lead to greater economic stability.<sup>13</sup> As noted above, the rates of economic instability were certainly affected by the recession and sluggish recovery.<sup>14</sup> Other research using different data and methods has also found relatively high levels of income instability, particularly for lower-income households, which is generally consistent with these findings (for example, Hannagan and Morduch 2016).

**Children in Some College households were most likely to experience instability in health care coverage and residence.**

Children in households with the highest education levels—those in the College Plus group—experienced the lowest rates of instability in health care coverage and residence (Figure 2). This is similar to the findings for employment, income, and earnings. Children in Some College households had the greatest instability in child health care coverage (44 percent had experienced a loss), higher than either children in the Less Than High School (35 percent) or High School Only (42 percent) groups. This may reflect the effects of public health care coverage programs for lower-income children, which become less available to families as earnings rise. Similarly, we found high rates of residential instability in the Some College households, with findings statistically similar to those of the High School and Less Than High School groups (at the 1 percent level of significance). Reasons for this are unclear. Given that about one in four families eligible for federal rental housing assistance receives it, the availability of public programs for lower-income families is less likely to explain this trend than is the case for health care coverage (Joint Center for Housing Studies of Harvard University 2015).

**Figure 2. Proportion of Children in Households Losing Child Health Care Coverage or Moving (2008-2013)**

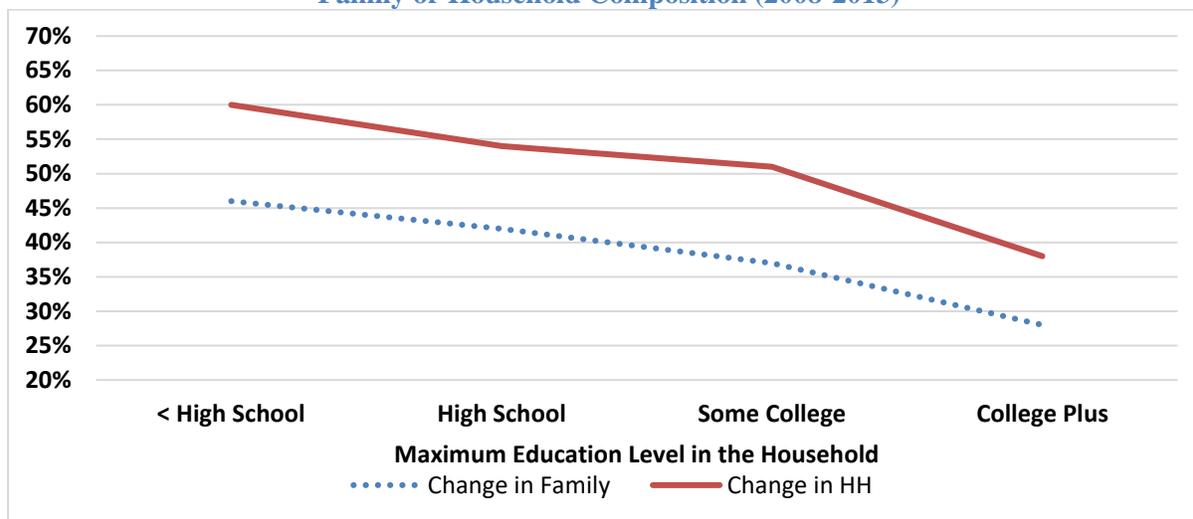


**The proportion of children experiencing changes in household or family composition declined as household education increased.**

Household education was positively associated with family and household stability, with children’s average rates of instability declining as their household education levels increased (see Figure 3). For

changes in both family and household composition, the rate of decline increased between the Some College and College Plus groups, though somewhat more sharply for the household composition measure.

**Figure 3. Proportion of Children Experiencing Change in Family or Household Composition (2008-2013)**



These trends are consistent with research that finds lower levels of divorce and cohabitation, and higher levels of marriage and family stability, among parents with college degrees or more (see Aughinbaugh et al. 2013; Cherlin 2014; Manning 2015).

### Cumulative Instability within and across Domains

#### Children in households with higher educational attainment experienced fewer instability shocks, with some exceptions.

The previous measures explored whether children experienced a particular type of instability shock during the five-year period. Here we examine the average number of times children experienced the shock (see Table 3).

**Table 3. Average Number of Times Children Experienced Shocks, by Education Level (2008-2013)**

Education Level	Loss of Full-Time Worker	Income Loss of > 25%	Earnings Loss of > 25%	Loss of Child Health Care Coverage	Child Move	Change in Family	Change in Household
< High School	1.9	16.4	11.7	0.5	0.7	0.7	1.3
High School	1.7	14.0	10.0	0.6	0.6	0.7	1.2
Some College	1.5	12.8	9.4	0.7	0.7	0.6	1.1
College Plus	1.1	10.1	8.5	0.4	0.4	0.4	0.7

Consistent with other findings of this study, on average children in the College Plus group experienced notably fewer incidents of instability in all domains than did the other children (all estimates for the College Plus category are statistically distinguishable from the other three education categories at the 1 percent level of statistical significance). The other education groups also differed from one another, sometimes in statistically significant ways. Overall, the High School Only and Some College groups were most alike, whereas the Less Than High School and College Plus groups were consistently different from

the other two.<sup>15</sup> In addition, children in the Some College group experienced two types of shocks—loss of child health care coverage and moves—more frequently than children in households with less education.

**When children in the most stable households were excluded from the analysis, the results for children across education levels became much more similar to each other.**

Findings across education groups became more alike when we focused solely on those children that experienced instability (Table 4). Children who experienced no instability over the study period were disproportionately from the highest-education group.

**Table 4. Average Number of Times Children Experienced Shocks by Education Level, Only Those Experiencing (2008-2013)**

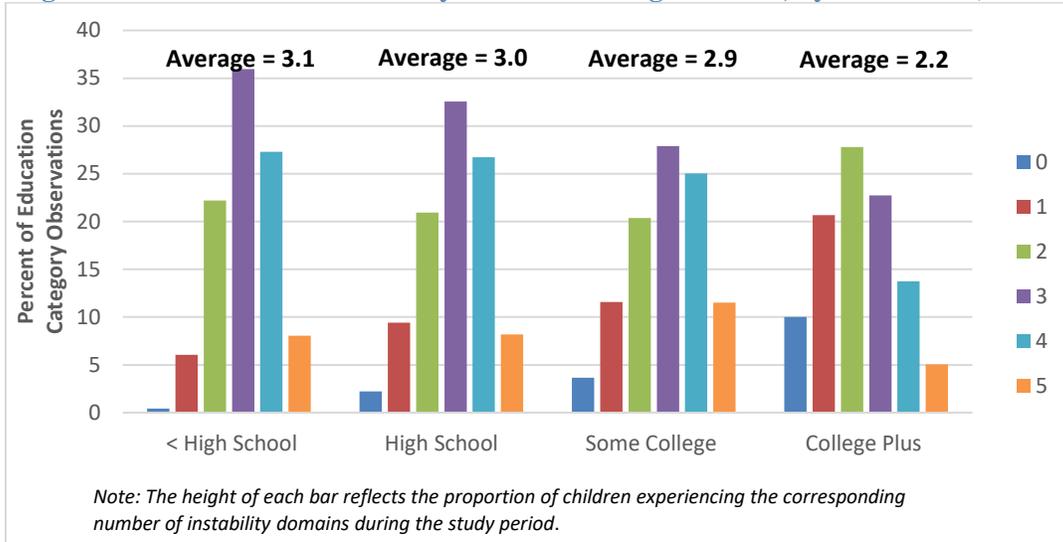
Education Level	Loss of Full Time Worker	Income Loss of > 25%	Earnings Loss of > 25%	Loss of Child Health Care Coverage	Child Move	Change in Family	Change in Household
< High School	2.4	17.7	15.0	1.4	1.7	1.6	2.2
High School	2.3	15.9	13.2	1.5	1.7	1.6	2.2
Some College	2.1	15.1	12.6	1.6	1.8	1.6	2.2
College Plus	1.9	13.8	12.6	1.5	1.4	1.4	1.8

Considering only those children that actually experienced instability compressed the distribution within each domain. In fact, for the grey-shaded findings for earnings and child health care coverage, the differences between these findings—by respective domain and education group—and those for the College Plus group were no longer statistically significant. This indicates that once the highest-stability children were removed from the analysis, children across groups were similarly vulnerable to instability.

**The index of cumulative instability was significantly lower for children in the highest education households.**

The lowest levels of cumulative instability in the index described above were among the College Plus children, consistent with our other findings, though some children nonetheless experienced substantial levels of change. Approximately 10 percent of College Plus children experienced no shocks in any of the instability domains. Approximately 5 percent experienced at least one shock in all five domains. Overall, these children experienced instability in the fewest number of domains—2.2 on average (Figure 4).

**Figure 4. Distribution of Instability Domains among Children, by Education (2008-2013)**



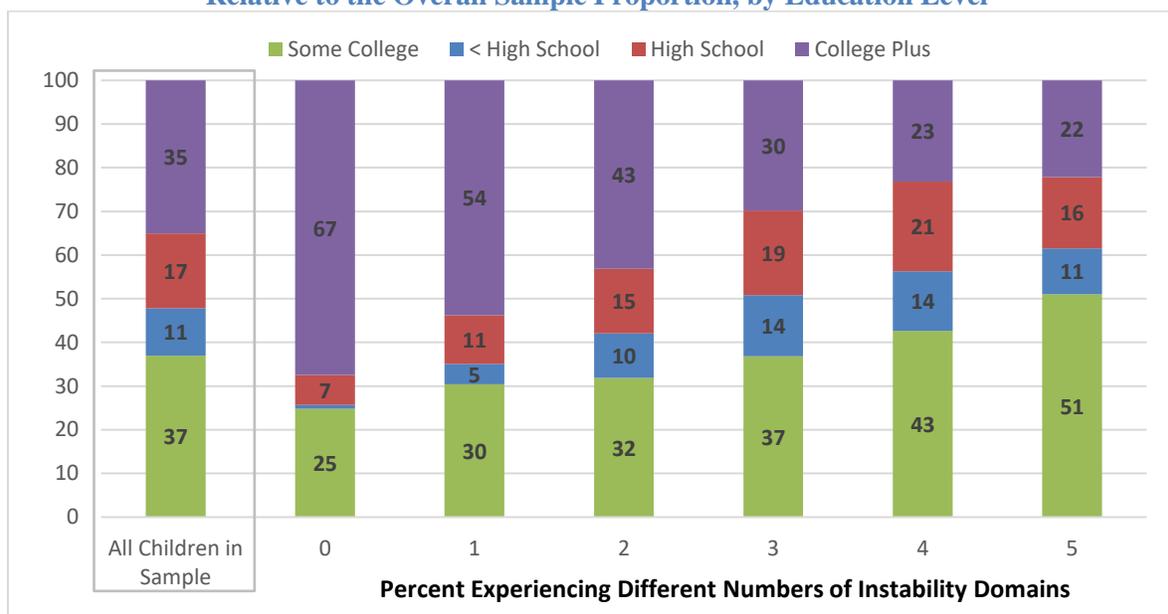
In contrast, less than 1 percent of the children in the Less Than High School group experienced no shocks in any of the five domains. About 22 percent experienced shocks in two domains, approximately 27 percent experienced shocks in four, and slightly more than 8 percent experienced shocks in all five domains. On average, these children experienced shocks in 3.1 domains during the study period.

The cumulative instability index overall ranged from 3.1 (for Less Than High School) to 2.9 (for Some College) for the children in the lowest three education groups. Their average results were roughly similar to one other, though modestly declining as education level increased. Although the types of instability differed across these education groups, as discussed above, the cumulative measures did not vary substantially.

**Children in Some College households were disproportionately found in the highest cumulative instability category.**

Figure 5 allows us to see how the distribution of children experiencing different levels of cumulative instability compares with their presence in the overall study, identifying those disproportionately at risk. It compares how children were distributed among the four education groups (in the “All Sample Children” bar) with their distribution according to the number of instability domains they experienced.<sup>16</sup>

**Figure 5. Distribution of Instability Domains Relative to the Overall Sample Proportion, by Education Level**



Children from the Some College group made up more than one-half of the highest instability category, despite constituting only 37 percent of all children in the study. Children in the High School Only and Less Than High School groups were also overrepresented in the higher cumulative instability categories relative to their proportions in the sample. They were also found disproportionately in the three- and four-domain categories. Children in the College Plus group, in contrast, dominated the lowest instability category (those with no experience of instability). They made up 67 percent of this category, but represented only 35 percent of the total sample. However, children in the College Plus households also constituted about 22 percent of the highest-instability category, suggesting that a substantial number of these children nonetheless dealt with significant levels of disruption in their lives.

## CONCLUSION

The study found that instability is prevalent for many American children, with distinctions by their household education level. Overall, children in households with lower levels of education experienced the most instability, and those with the highest levels experienced the least. Moreover, children in the lowest education group—“less than high school”—experienced the highest levels of instability in the majority of domains we examined.

However, we also found substantial variation that did not strictly track to education levels. In several key domains—child health care coverage, residential moves, and earnings—children in the third education group (“some college”) experienced instability to an extent similar to or greater than children in the lower education groups. Children in households with some college experienced instability in health care coverage and residential moves more frequently than did children in high school households, while levels of earnings instability were equivalent between households with some college and high school only. Further, the children in the some college group were overrepresented at the highest level of our cumulative instability index. By assessing experiences of instability across key domains, we found that the some college group faced the greatest likelihood of multiple-domain instability relative to the other education groups.

We also found that among children experiencing any instability during the five-year period, the findings for all four education groups became more similar. This indicates that once the highest-stability children—disproportionately found in the “college plus” group—were excluded from the analysis, children across groups were more similarly vulnerable to instability.

As noted earlier, our work is descriptive and cannot identify the causal relationships among types of instability shocks, such as how they may interconnect or cascade, with one leading to others. Nor is it able to address the ultimate impact of instability on the lives of children and their households. But the study’s findings can help us to understand the magnitude of instability that American children face, both within key areas of family life and in the aggregate. A better understanding of the nature and scale of family instability is an important step toward ensuring that public programs work as effectively as possible to support—rather than challenge— family stability and encourage well-being and self-sufficiency among all Americans.

Future research briefs in this series will report results by race-ethnicity and geography and will also explore the circumstances of the “some college” group. Potential future research topics include analyses by age of the child (including young children and adolescents), relationships among specific types of family instability (including timing and cascading), the relationship between income *instability* and income *level*, the impact of cross-domain instability on child and family outcomes, and implications for federal programs.

## ACKNOWLEDGEMENTS

The authors would like to thank Emily Schmitt, Victoria Kabak, and Nicole Deterding of the Administration for Children and Families’ Office of Planning, Research and Evaluation (OPRE); Heather Hill, Jennifer Romich, Marybeth Mattingly, and Colleen Heflin of the Family Self-Sufficiency and Stability Research Consortium; Lawrence Berger and Daniel Meyer of the Institute for Research on Poverty at the University of Wisconsin—Madison; Jonathan Morduch of New York University and the Financial Access Initiative; Gina Adams, Mary Bogle, Heather Sandstrom, Julia Isaacs, Julia Gelatt, Michael Katz, and Lisa Dubay of the Urban Institute; and Robin Ghertner, Jennifer Burnszynski, and Kendall Swenson of ASPE for their contributions to the development of this study, and/or for their reviews of its findings and this brief.

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## ENDNOTES

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<sup>1</sup> Many studies explore specific though sometimes interconnected dimensions of instability. They include (but are not limited to) Hannagan and Morduch 2016, Western et al. 2016, Gottschalk and Moffitt 2009, Hill et al. 2013, Wolf et al. 2014, and Pew Charitable Trusts 2015 (income and earnings); Huff Stevens and Schaller 2011, and Kalil 2009 (employment); Desmond and Perkins 2016, Jolleyman and Spencer 2007, and National Research Council and Institute of Medicine 2010 (housing and residential stability); Manning 2015; Cherlin 2010, 2014; DeRose and Wilcox 2017; Cavanaugh and Huston 2008; and Brown 2006 (family and household composition); and Evans and Schamberg 2009, Shonkoff et al. 2011, and Duncan et al. 2010 (developmental implications of chronic stress, poverty, and instability).

<sup>2</sup> Several studies take a cross-cutting or broader conceptual approach and include Adams et al. 2016, Heflin 2016, Hill et al. 2016, Mullainathan and Shafir 2013, Sandstrom and Huerta 2013, and Moore et al. 2000.

<sup>3</sup> Relationships among domains are likely to be complex and interconnected, with causal relationships working in multiple directions. Further, changes such as a move or the addition of a household member may ultimately be positive or negative for a child and family, depending on their circumstances, the frequency with which similar changes occur in the child's life, family or community resources, child characteristics such as age and temperament, and the presence and capacity of caring adults to buffer potential negative effects (Adams et al. 2016). Moreover, future research should differentiate the effects of unstable and insecure circumstances from the effects of absolute poverty and hardship. Finally, thanks to Hill et al. 2016 for the "cascading" metaphor.

<sup>4</sup> We use educational attainment in the household as a proxy for socioeconomic status (SES). Educational attainment was much more stable over time than other traditional SES measures such as income (which was also one of our dependent variables).

<sup>5</sup> We recognize that these seven areas of instability could be defined as representing four domains (i.e., economics, health care coverage, residence, and household) with four or more subdomains (employment, income, and earnings as subsets of economics, and family as a subset of household). For simplicity's sake, however, we refer to each of the areas as a domain.

<sup>6</sup> There are undoubtedly cases in all household education groups where earnings (and therefore income) losses are tied to uneven but predicted money flows into the household, such as a month with three rather than two pay periods, or receipt of a lump sum payment for the Earned Income Tax Credit. Issues related to "mismeasurement" are addressed in the appendix.

<sup>7</sup> Using alternative measures of child and household socioeconomic status, such as the least-educated adult in the household or household income at baseline, did not lead to substantively different results from those presented here.

<sup>8</sup> By collecting information on a month-by-month basis by means of 16 survey waves, SIPP provides up to 64 monthly observations for each child in the study.

<sup>9</sup> We made this decision to avoid including a substantial number of children and families with very incomplete data, which would have skewed the results. However, it also meant excluding some children and families likely to experience particularly high levels of instability, especially those dropping out of the survey for the same instability factors studied in this analysis. Attrition is most likely to occur in households experiencing economic hardships; thus, instability in this report is most likely a conservative estimate for the lower-educated households.

<sup>10</sup> We excluded earnings because it is a subset of income, and family composition because it is a subset of household composition.

<sup>11</sup> To calculate this index we summed these 1s and 0s for each of the roughly 15,000 children in our 2008 to 2013 panel—with no attempt to weight them—and the range of 0 to 5 reflects the cumulative instability level for that child. Obvious limitations to this approach are that each domain is treated equally when they were unlikely to be so from the child's perspective. Also, this method cannot capture the intensity of instability within each domain—for example, one move in a five-year period was treated the same as five moves, which would likely be far more disruptive to the child.

<sup>12</sup> Subsequent decreases in unemployment rates during the early recovery also varied across education groups, with the two lowest-education groups seeing the greatest percentage point improvement in unemployment rates toward the end of 2011, which could contribute to further change in some domains, such as housing and household composition. Nonetheless, these groups' unemployment rates remained high as of quarter 3 of 2011, at 14.3 percent for the Less Than High School group and 9.5 percent for the High School Only group (Elsby et al. 2011).

<sup>13</sup> We will explore the Some College group in future research, unpacking which types of education they have invested in and for how many years, and their attainment of certificates or other degrees below a bachelor's degree.

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<sup>14</sup> As discussed in the appendix, the data also include some mismeasurement error, including predictable changes that would not really constitute a meaningful income loss.

<sup>15</sup> Some of the measures—such as income and earnings—may have been more volatile because of the Great Recession. Further, some events such as a residential move were much less common than income-related changes.

<sup>16</sup> If instability were randomly distributed among the study children, we would expect their presence in the different categories of the cumulative instability index to mirror their presence in the overall sample of children across education level. Clearly this was not the case.