Mixing Methods for Full-Strength Results: Two Welfare Studies
Marya R. Sosulski and Catherine Lawrence
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Mixing Methods for Full-Strength Results

Two Welfare Studies

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This article discusses the practical application of mixed quantitative and qualitative designs. Mixed methods designs can be especially powerful in illuminating policy solutions and directions for social action, thus supporting the social justice goals of social work and other helping professions. However, the decision to combine methods must be appropriate for the study, elevating the integrity and strength of the results. This article uses two studies of U.S. welfare policy to describe the decisions researchers made during the design, implementation, and combined statistical and interpretive analyses of the two research projects.

**Keywords:** mixed methods research; mixed methods designs; U.S. welfare reform; social action

Within the diverse and active circles of social science research there is an ongoing discussion of the benefits of research designs that combine qualitative and quantitative approaches (Gorarad, 2002; Tashakkori & Creswell, 2007). Research that mixes methodologies can temper biases inherent in each tradition; the power of numbers and an aim of generalizing quantified outcomes balanced with the rich context of lived experiences captured in qualitative inquiry can yield results that are quite distinct from single-method designs (O’Cathain, Murphy, & Nicholl, 2007; Teddlie & Tashakkori, 2003). As such, mixed methods studies are often suggested as a way to disentangle intricate relationships and more fully understand complex social phenomena (Mertens, 2003; Teddlie & Tashakkori, 2003).

This article contributes to the discussion of mixed methods research by describing the techniques used and decisions made in the research process of two mixed methods studies of policy interventions with low-income families. One study, the Access to Education Project, analyzes the experiences of recipients of welfare (currently called Temporary Assistance for Needy Families, or TANF) who attempt to use college enrollment to fulfill the work requirements of the program in Illinois. The second study, State Policy Responses to Federal Family Formation Goals, explores state program and policy responses to the family formation goals of welfare reform in 17 states.

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These studies generate findings through concurrent statistical (quantitative) and interpretive (qualitative) analyses, illuminating significant trends and emerging themes that are mutually informative. This process is ultimately transformative for the data analyses and results (Johnson, Onwuegbuzie, & Turner, 2007; Mertens, 2003). Thus, although combining methods presents unique challenges, profound results prove the effort worthwhile; such results can generate cogent policy solutions and direction for social action.

Background

The legitimacy of combining qualitative and quantitative methodologies has been the topic of some debate. Some scholars say that joining the two research traditions is not new, but only recently has it been called mixed methods (Johnson et al., 2007; Tashakkori & Teddlie, 2003b). Data triangulation techniques, for example, may combine qualitative and quantitative sources of data (Johnson et al., 2007; Tashakkori & Teddlie, 2003b). Others see qualitative research, which tends to be inductive, and quantitative methods, which are deductive, as different ends of the same continuum (Newman & Benz, 1998). Still others see the two traditions as representing distinct, mutually exclusive worldviews (deLeon, 1998; Xie, 2005) or hold that one approach is superior to the other.3

John Creswell (2003) describes mixed designs as reflecting the iterative process that all researchers employ, moving between induction and deduction at different stages to answer their research questions. From this perspective, mixed methods studies simply reflect a natural course of action. However, in order to “genuinely integrate” methods and produce convincing results (Bryman, 2007, p. 8), researchers must have a solid foundation in different methodological traditions and be conscientious about planning, implementing, and evaluating the research design (Creswell, 2003; Johnson et al., 2007; O’Cathain et al., 2007).

In addition, the process of combining qualitative and quantitative techniques is different in each study and must be clearly documented (Creswell, 2003; O’Cathain et al., 2007). Such transparency accounts for inferences made by the researcher and identifies why they are the best explanations for the observed phenomena (Moore, Zaslow, Coiro, Miller, & Magenheim, 1996; O’Cathain et al., 2007). Using demonstrated assessment techniques throughout the research process requires researchers to share information about how they conduct their research, including decisions regarding when and how to mix methods. Researchers must both explain how the chosen methods are complementary and assess the efficacy of the combined analysis (Tashakkori & Teddlie, 2003b).

Documentation of how methods are combined in a study is only one of several challenges in mixing research methods (Bryman, 2007). Multimethod studies also increase the time and resources needed for research (Bryman, 2007; Creswell, 2003). For example, solo researchers must have or develop expertise in all methodological techniques used in the study. Alternatively, multiple researchers with different skills may collaborate. In either case, mixed methods studies are likely to increase the cost of such research. In addition, reconciling disparate research philosophies may introduce practical difficulties and complications in outcomes and interpretation (Bryman, 2007; Sale, Lohfeld, & Brazil, 2002). However, the potential reward of distinct results is a strong motivator for conducting mixed methods studies (Johnson et al., 2007).
Changing ideas about the epistemological compatibility of mixing research approaches may be responsible for this increased popularity (Morgan, 2007). The prevalence of mixed methods in mainstream social science venues suggests that the philosophical debate about theoretical coherence in mixed research approaches has shifted, making room for a new generation of questions (Johnson et al., 2007; Morgan, 2007). These questions include the following: (a) Given the research question, how does one determine when mixing methods is appropriate? (b) How are mixed methods studies designed and executed? (c) How does one measure the strength of mixed methods results?

This article addresses the first two questions—how to determine when mixing methods is appropriate and issues to consider when designing and implementing such studies—using the examples of two different studies of welfare policy and implementation. The first question is central and must be answered prior to initiating any study that mixes multiple data types or analysis traditions and techniques. That is, the mere capacity to implement a mixed methods study is not sufficient reason to pursue such a design (O’Cathain et al., 2007; Sale et al., 2002). Mixed methods studies can yield unique findings, but only with thoughtful designs and careful implementation will the analysis be arguably stronger than in a single-method study (O’Cathain et al., 2007). There is no single answer to the second question, as the studies we have undertaken illustrate. However, similar decision points occur in the execution of each study. The third question deals with assessing the value of findings to determine whether the benefit was greater than the cost of additional resources needed to combine methods; this question is beyond the scope of this article.

Although discussion continues regarding the methodological compatibility of combining qualitative and quantitative approaches to research, parallel conversations of the pragmatic application of mixed methods techniques grow (Creswell, 2003; Morgan, 2007); this article contributes to that pragmatic literature. This is not to suggest that the epistemological debate is irrelevant, however. This article focuses on techniques, yet the concluding discussion returns to epistemology and ontology, with a focus on implications for research, policy, and practice.

Because the primary objective of this article is to address when and how to use mixed methods, it discusses the research decision points and process of analysis in considerable depth. The featured studies frame a discussion of issues to consider in deciding when and how to combine research approaches. Following a brief overview of the two studies, we describe how we combined qualitative and quantitative elements in the research questions, the implementation of the design, data collection, and analyses. The article concludes with a discussion of the ways in which the study results make unique contributions to the literature, providing implications for policy and social action.

**Overview of Studies**

The overarching goals of the studies were similar: They both examined policy shifts in the post–welfare reform era in the United States. Both involved state-level implementation of welfare objectives, but the theories guiding the inquiries were quite different (see Table 1). The Access to Education Project began by inquiring into the standpoint, or perspective, of welfare recipients and focused on the value of higher education as an
Table 1
Comparison of Goals, Theories, Design Elements, and Findings for the Two Focal Studies

<table>
<thead>
<tr>
<th>Access to Education Project</th>
<th>State Policy Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overarching goals</strong></td>
<td>To analyze state behavior in response to the family formation goals of welfare reform—focus on effects of policy on states' policies and implementation (macrolevel)</td>
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<td></td>
<td></td>
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<tr>
<td><strong>Guiding theories</strong></td>
<td>Theories about prevention (i.e., preventing out-of-wedlock births) and intervention (encouraging marriage and maintenance); theories about state behavior with respect to federal policy shift</td>
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<td></td>
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<tr>
<td><strong>Designs and major decision points</strong></td>
<td>Linear design: qualitative sample (n = 17) nested within quantitative sample (n = 50); began with qualitative interviews and moved to quantitative analysis; 1 decision point (see Figure 2)</td>
</tr>
<tr>
<td>Spiral design: qualitative sample (n = 15) nested within quantitative sample (n = 686); moved back and forth between quantitative and qualitative approaches and data in stages, incorporating results of previous stage; 3 iterations and 3 decision points (see Figure 1)</td>
<td></td>
</tr>
<tr>
<td>Linear design: qualitative sample (n = 17) nested within quantitative sample (n = 50); began with qualitative interviews and moved to quantitative analysis; 1 decision point (see Figure 2)</td>
<td></td>
</tr>
<tr>
<td><strong>Participants and settings</strong></td>
<td>In-depth interviews with welfare recipients and former recipients in Illinois; statewide survey of 75% of Temporary Assistance for Needy Families (TANF) caseload; blend of macro- and microexperiences, from statewide results to individuals' experiences in their communities</td>
</tr>
<tr>
<td>In-depth interviews with state administrators responsible for implementing welfare reform policies; quantitative data considered universe of 50 states to provide national context for qualitative sample's responses</td>
<td></td>
</tr>
<tr>
<td><strong>Data collection procedures</strong></td>
<td>Original, in-depth interviews at two time points and secondary analysis of survey data, both conducted by researcher</td>
</tr>
<tr>
<td>Original, in-depth interviews with state administrators, conducted by field network team and supervised by researcher; secondary analysis of state data, conducted by researcher</td>
<td></td>
</tr>
<tr>
<td><strong>Analytic process</strong></td>
<td>Qualitative analysis: data coded using themes based on literature and variables in quantitative model; additional themes emerged from interviews; comparative and unusual cases examined for underlying social processes.</td>
</tr>
<tr>
<td>Quantitative analysis: simple associations and multiple logistic regression; included variables representing themes from in-depth interviews.</td>
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<tr>
<td>Qualitative cross-case analysis of field data and state administrative data.</td>
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<tr>
<td>Quantitative testing of simple associations with administrative data to test the predictive strength of the typology.</td>
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</tbody>
</table>

(continued)
<table>
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<tr>
<th>Major study findings</th>
<th>Access to Education Project</th>
<th>State Policy Study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Description of alternate pathways to college through the welfare system (i.e., TANF) and work opportunities</td>
<td>1. Description, typology of state responses to TANF family formation goals</td>
</tr>
<tr>
<td></td>
<td>2. Financial benefits from multiple public assistance programs working in concert affected whether welfare recipients could enroll in college; effective job training mimics postsecondary education</td>
<td>2. Most states implemented programs to meet family formation goals but less than efforts to meet TANF work-related goals; state efforts toward pregnancy prevention, parent structure strategies; states ranged from highly engaged to not engaged in 2 strategies</td>
</tr>
<tr>
<td></td>
<td>3. States avoided controversy and implemented programs where they had policy consensus; support for block-granting federal programs, implications positive for increasing federalism</td>
<td>3. States avoided controversy and implemented programs where they had policy consensus; support for block-granting federal programs, implications positive for increasing federalism</td>
</tr>
</tbody>
</table>

| Primary methodological findings: nature of intersecting points in data | Data show relative importance of factors/themes in larger population where data converge and diverge; many potentially equivalent alternative explanations surface for the same phenomena (e.g., reasons for enrolling in college or not) | Intersecting points led to further analysis of state responses and exploration of antecedent conditions related to state policy, program choices; led to greater understanding of federalism and state implementation of new policy areas |
incentive for participation; the State Policy Study, by contrast, started with midlevel administrators who were implementing prevention and intervention strategies. Gathering and analyzing data from the bottom up (microlevel) versus from the top down (macrolevel) provides interesting—yet partial—perspectives on the policies and programs; the recognition of this reality was the impetus for both researchers to use mixed methods approaches. It was essential to bring both qualitative and quantitative data representing individuals’ experiences and state or national trends to bear on these complex policy questions. All decisions about when and how to mix the approaches flowed from these considerations. Table 1 provides a side-by-side comparison of the major elements of the two studies’ designs.

The first step, however, was to thoroughly understand the policies and the important shift in U.S. policy that welfare reform represented. The two studies address the state-level impacts of welfare reform in the United States. The Personal Responsibility and Work Opportunities Reconciliation Act (PRWORA) of 1996, or welfare reform, replaced the 60-year-old program Aid to Families With Dependent Children with a new cash assistance program, TANF. The law signaled a momentous shift in American welfare policy, which was noted by—and in some cases influenced—welfare states around the globe. One effect of the reform was to give individual states exceptional freedom to design programs that reflect local concerns. The new law also mandated work requirements for an unprecedented proportion of welfare recipients and introduced new objectives to encourage the formation of married, two-parent families. Each study presented here explores outcomes of this new welfare agenda using quantitative analysis of secondary data combined with original in-depth interviews derived from the secondary data sets to illustrate potential impacts of this policy sea change.

Study Overview: The Access to Education Project

The first study concerns the experiences of Illinois welfare recipients with the “college option” policy during the first 8 years of PRWORA, from 1997 until 2005. This study explores the relationship between recipients’ use of welfare benefits and the Illinois work requirements. Postsecondary education is generally excluded as an allowable work activity in the 1996 federal TANF provisions (Cohen, 1998). However, some states have used welfare reform’s flexibility to allow recipients to attend college without losing benefits; this approach was taken by Illinois in 1998. The Illinois policy stops the clock on the 5-year lifetime limit on cash aid eligibility while the recipient attends college and maintains a 2.5 grade point average. Yet even with this exceptional category of eligibility, the rate of college attendance among female welfare recipients with the educational prerequisites is quite low.

These low rates of college participation motivated a study to examine factors that contribute to access to higher education for these women. One objective of the research was to determine the extent to which factors relating to individual characteristics, social circumstances, and community-level indicators explain college enrollment for women with histories of welfare receipt in Illinois. This was accomplished through quantitative analysis of a large data set that included 686 female respondents to the Illinois Families Study, a 6-year, nonexperimental panel study that followed more than 1,000 families who received welfare in 1998
through four waves of data collection. In-depth interviews with 15 individuals selected from (i.e., nested within) the Illinois Families Study survey sample contributed explanations about contextual factors and alternative interpretations of the data.

A second objective was to explore new ways to understand the construct of access to postsecondary education. This was achieved by listening to the respondents’ experiences and the policy solutions they offered during the in-depth interviews and by using this context to consider how trends observed in the Illinois Families Study data may or may not constitute access to postsecondary education for this population.

Study Overview: State Policy Responses to Federal Family Formation Goals

The second study, the State Policy Study, analyzed state behavior in response to the family structure and pregnancy prevention goals of the 1996 welfare legislation. Collectively, the family formation goals of the 1996 act promote a narrow definition of a traditional family structure: Families with children include two parents, one mother and one father, preferably married to each other. The goals specify three strategies for forming families: (a) preventing single-parent families by reducing births to unmarried women, (b) promoting marriage of parents, and (c) maintaining existing two-parent families. Earlier welfare legislation reflected expectations of traditional family structure through various provisions (Abramovitz, 1996), but influencing the process of family formation itself was never before a primary objective of federal welfare policy. The impact of this focus has raised concern among social scientists (Catlett & Artis, 2004; Fineman, Mink, & Smith, 2003).

At the same time, welfare reform expanded the role of state and local governments in designing welfare programs, giving them unprecedented flexibility in program choices (Nathan & Gais, 1999). This was especially true for programs related to TANF’s family formation goals. Unlike work participation and caseload reduction, states’ family formation activities were not subject to accountability measures, such as performance requirements or fiscal incentives. There were few federal controls on state behavior to influence family structure. In fact, states could respond with vigor to the family goals, or they could ignore them entirely.

The new agenda in welfare policy, combined with expanded state flexibility, called for a study of state policy and program choices related to the family formation objectives of TANF. The State Policy Study systematically compared state responses related to these goals and assessed the variation among state strategies to influence the marriage and child-bearing behavior of TANF recipients. Study methods included qualitative cross-case analysis of state policy and program implementation to develop a typology of state choices, followed by the use of independent, quantitative measures of state characteristics to assess the utility of the typology.

Selecting a Mixed Methodology

The selection of a mixed methods design should be driven by the need for such a design to effectively answer the study questions. This first step may sound obvious, but it bears
consideration here, as determining the need may be more easily said than done. The following discussion uses the two case studies as examples of how to evaluate whether mixed method approaches are called for.

The Original Research Questions

For both studies, the decision to combine methods was made based on the purpose of the research as outlined in each study’s research questions. Research on U.S. welfare policy is extensive, and both researchers built on a considerable body of knowledge. At the same time, the studies were designed to discover fresh, comprehensive understandings of the phenomena rather than a quality-added value. That is, the goal was to gain a different perspective instead of accumulating additional layers of knowledge that have the same value independent of each other. The two studies began with multilevel questions, incorporating intersecting quantitative and qualitative elements.

Because an aim of quantitative research is to estimate the correctness of hypotheses identified at the beginning of the project, the research questions are assumed to be fixed and unchanging; the researcher is relatively certain that the phenomenon exists in a particular way (Pedhazur & Pedhazur Schmelkin, 1991). The question is about the extent or size of the effect, and the answer is, in some sense, countable. Although the researcher may have multiple hypotheses about the relationship in question, the question itself is not altered in the process of searching for the solution.

By contrast, qualitative research questions tend to be dynamic, unfolding and evolving as data are collected and even as they are analyzed. These interpretive questions do not test for predetermined outcomes, but rather describe or explore the nature of phenomena in particular contexts. Interpretive questions are open to adaptation and modification, even to the point of being completely revised if the data show that the researchers’ initial assumptions were imprecise or incorrect (Creswell, 2003).

Mixed methods studies are employed when the concern is both what is happening and how or why it is happening the way it is. This apparent incompatibility in the study questions—fixed versus dynamic—is the first issue researchers must resolve in designing mixed methods studies. Although these differences may appear to make the two kinds of questions incompatible, thoughtfully collecting different types of data and carefully analyzing them with both aims in mind can resolve the issue. Research questions that ask to what extent an event occurs or what impact it has and what the nature of the occurrence or impact is demand multidimensional answers that are both objective and subjective. Research that aims to develop new theory and expand on current conceptions must include both an examination of what exists and consideration of changing social and political contexts.

To demonstrate this multilevel inquiry for the two studies presented here, Table 2 presents a comparison of the research questions and purposes. Both studies include exploratory and descriptive questions that incorporate quantitative and qualitative elements. Both studies use qualitative data from in-depth interviews to compare cases and then to inform quantitative data analysis. The quantitative data, in turn, provide clues that are useful in interpreting information gathered in the qualitative interviews.

In the Access to Education Project, the research questions led to mixing methods partly because they reflect multiple theoretical perspectives. The study drew on social exclusion...
theory, which is population and community oriented (Saraceno, 2001); human capital theory, which is based on the individual (Becker, 2002; Gittell, Gross, & Holdaway, 1993); and social capital theory, which bridges the two (Body-Gendrot & Gittell, 2003). The research explored how educational access through welfare policy intersected with support through higher education institutions, community and family systems, and individuals’ strengths and barriers.

The study aimed to fill in gaps in recent literature on welfare and higher education (Sosulski, 2004). Several separate quantitative studies had examined program effects, human capital questions, and influences of social networks on welfare recipients’ use of services and postsecondary participation. However, few if any had considered these factors in concert, controlling for individual, family, community, and policy-related variables. Qualitative pre–welfare reform studies had provided rich descriptions of experiences with detailed demographic information from a large pool of respondents (Gittell et al., 1993). But more recent studies specifically of welfare and postsecondary education have not included in-depth experiential context directly attached to large-scale quantitative data sets.

To address some of these issues holistically, several interlocking questions were developed. The goal of asking broad, multidimensional questions was to gain new understanding

<table>
<thead>
<tr>
<th>Purpose of the Question</th>
<th>Access to Education Study</th>
<th>State Policy Study</th>
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<tbody>
<tr>
<td><strong>Exploratory, descriptive</strong></td>
<td>1. What factors facilitate Temporary Assistance for Needy Families (TANF) participation and postsecondary enrollment among welfare recipients?</td>
<td>1. What policies and programs have states chosen to meet the family formation goals of TANF?</td>
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<tr>
<td></td>
<td>2. What is the nature of welfare and higher educational experiences that influences decisions to pursue higher education for different participants? What are some reasons that some enroll in college, whereas others delay or abandon college plans?</td>
<td>2. What populations are targeted for the receipt of state provisions, and how have states chosen to deliver these provisions?</td>
</tr>
<tr>
<td></td>
<td>3. What environmental and contextual variables appear to be related to state choices?</td>
<td>3. What environmental and contextual variables appear to be related to state choices?</td>
</tr>
<tr>
<td><strong>Comparative among cases</strong></td>
<td>3. For women with welfare histories who do not receive cash assistance while attending college, what are some alternative patterns of public benefits use and postsecondary participation?</td>
<td>4. How do states vary in the provisions they chose to address family formation goals?</td>
</tr>
<tr>
<td><strong>Interpretive</strong></td>
<td>4. What do respondents see as the role of targeted programs—specifically means-tested public assistance such as cash assistance, food stamps, and Medicaid—in reducing their social marginalization by helping them work and attend college?</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 2
Comparison of Study Questions

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of the experiences of women in this population. Then, a different perspective on access to education could lead to innovative solutions and policy recommendations.

For its part, the State Policy Study questions focus on how states responded to the family formation goals of the federal welfare reform legislation of 1996. Family formation was a new goal in cash assistance policy. Because states had considerable freedom to design their own welfare programs, one overarching exploratory question was in order: What did the states do?

Researchers have studied state implementation of welfare policy for several decades. Federal program waivers allowed states to experiment with welfare programs beginning in the early 1990s. Single-state case studies from these experiments contributed significantly to research on state program implementation before passage of the 1996 welfare reform (Knox, Miller, & Gennetian, 2000; Maynard, Boehnen, Sandefur, & Mosley, 1998; Quint, Bos, & Polit, 1997). This research showed that states differed significantly in program innovation and implementation behavior. Some variation reflected long-standing classifications of state behavior into regional political cultures (Elazar, 1966; Moore et al., 1996). It was possible that state reactions to the family formation objectives would also follow these regional tendencies, such as the Northeast states generally behaving in one way and the Southern states behaving differently.

Therefore, a second goal of the State Policy Study was to systematically compare policy choices across states and assess the nature of the variation in state strategies to influence marriage and childbearing. Had the research questions for the study been only exploratory—that is, describing how states responded to the new goals—a single-method qualitative design including a few cases would likely have been sufficient to produce new findings. But the study called for a mixed methodology because the questions were also comparative in order to develop hypotheses for why states’ responses varied in particular ways. The qualitative inquiry provided the depth of understanding found in individual case studies; quantitative methods provided consistency and uniform contextual variables.

Emerging Questions

Although most of the research questions in both studies were developed at the outset, some questions evolved and others emerged as the research progressed. For example, in the Access to Education Project, the third question (see Table 2) surfaced when the initial quantitative analysis revealed an unexpectedly low rate of college enrollment and welfare use. About 80% of Illinois Family Study survey respondents indicated that they were interested in pursuing college, and many reported having completed postsecondary programs (Sosulski, 2004). At the same time, the respondents were receiving some public assistance (e.g., food stamps and Medicaid), and many were fulfilling work requirements through paid employment. This comparative question materialized to understand what exactly was happening with college enrollment, as well as how and why.

Unlike in the Access to Education Project, the State Policy Study questions did not change over the course of the study. There was, instead, an expansion of the data brought to bear in answering the questions. The use of quantitative data did not add new dimensions to the research question but strengthened the study in other ways and altered the findings, as discussed later.
Were mixed method designs appropriate for these two studies? Yes, for several reasons. First, from a pragmatic standpoint, mixed methods techniques were feasible: Both researchers had access to or could develop qualitative and quantitative data sets. Both studies used existing data, and both researchers had the capacity and collegial support to conduct multimethod analyses. But pragmatic considerations aside, it was the purpose of each study that led to multidimensional questions. Single-method studies might have been sufficient to provide some pieces of these puzzles, but questions that include what, how, and why elements require both deeply interpretive and more widely generalizable and transferable components to more fully grasp the nature of the phenomena and indicate appropriate responses.

### Designing and Implementing the Studies

Practical issues accompany all research, but mixed methods studies come with particular implementation questions. For example, when several types of data are used, in what order should data collection occur? How might the sequence of data collection and analysis influence the interpretation of the results? These pragmatic considerations reflect ontological and epistemological concerns: What do we need to know, how can we gather observations, and how do we choose to understand or perceive the data we have? (Morgan, 2007).

This section explicates the implementation of the two studies’ designs. The discussion addresses two of the most important implementation issues faced by mixed methods researchers: The first issue is how to sequence tasks such as selecting samples and collecting and analyzing data. The second concerns managing the expected and unexpected developmental aspects of mixed methods designs.

### Sequencing

When combining methods, the order in which research tasks occur is important. Because such studies multiply the components of research (i.e., two or more research questions, two or more samples, two or more data sets), they also increase the possible ways the research can proceed (Johnson et al., 2007). Researchers can sequence steps to meet different needs: to control for potential bias, to maximize the utility of the information and interpretation, and to anticipate future steps and questions. This section outlines the sequencing of data collection, sample selection, and analysis with respect to our decision points, processes, and problem solving.

### Sequence of Research Steps in the Access to Education Project

In the Access to Education Project, the sequencing of quantitative and qualitative pieces was directed by the research questions, but there were also pragmatic concerns as the data were collected and made available. Figure 1 shows the sequence of sample selection, data collection, and analysis, as well as turning points at which the researcher made decisions that influenced the direction of the study. The project began by obtaining access to the Illinois Families Study survey data. This statewide study of welfare reform implementation
was completing its second wave of data collection, and the third wave was being planned. The survey included questions directly related to access to postsecondary education that were initiated by the researcher. Permission was given to purposively select and contact a subset of respondents who could be recruited for in-depth interviews to create a nested (i.e., embedded) sample.

Sample selection in the Access to Education Project. The relationship between the quantitative and qualitative samples is important because it affects the interpretations of both together (Teddlie & Yu, 2007). When the qualitative and quantitative samples are either one and the same or nested, the researcher can more strongly argue that the emergent stories from both are related and compatible; this further enhances the potential to make credible inferences linking the qualitative and quantitative results (Newman & Benz, 1998; Teddlie & Yu, 2007).

The quantitative sample included 686 female respondents who participated in the first two waves of the Illinois Families Study. The women had Grade 12 credentials but not 4-year college degrees, which qualified them for the welfare college option. The Illinois study oversampled urban areas and people of color, and the researcher used weighted analysis techniques to correct for bias. These data were supplemented with State of Illinois administrative data, which contributed records of welfare use, Medicaid, food stamps, child care subsidies, unemployment data, and wages.

Fifteen women from the pool of female survey respondents who participated in all of the first three waves of the Illinois Families Study were recruited for the in-depth interviews. The women were purposively selected using a stratified sample based on residence in a city or less urban area and to maximize variability in race and ethnicity. This sampling strategy
for the embedded qualitative sample of 15 women paralleled that of the whole Illinois Families Study survey. The researcher further sampled based on the respondents’ interest in and attempts to enroll in higher education.

Analytic decision points in the Access to Education Project. Once permissions were in place to access the data and construct the two samples, the researcher needed to decide whether to begin the quantitative analyses immediately as the embedded qualitative sample was selected (see Figure 1, Decision Point a). Parallel models for the qualitative and quantitative data analysis had been developed using a set of theoretically important factors (e.g., work history, educational history, and participation in social programs). These models were unlikely to change considerably because of the sequencing. Thus, the researcher decided that beginning the analyses of survey data would be judicious because the data were available; the objective was to uncover basic trends and to understand the prevalence of educational outcomes, using simple associations between variables. The researcher understood, however, that these preliminary results could influence how she conducted the in-depth interviews and the interpretation of the qualitative results. For this reason, regression analysis to uncover associations among factors was delayed until after the first wave of qualitative interviews was concluded.

Once the first 15 in-depth interviews were complete, the researcher conducted a logistic regression analysis of factors in the original theoretical model including individual-level variables, social networks, and education and welfare variables (see Figure 1, Decision Point b). The survey data were also reanalyzed to investigate the prevalence of unexpected additional factors that emerged as themes in the in-depth format and potential associations between these factors and postsecondary participation. An example of such a relationship was between college enrollment, work, and severe and persistent mental and physical illness and disability. Thus, the reanalysis of the survey data was purposefully influenced by the results of the in-depth interviews, specifically with the inclusion of variables that emerged in the qualitative data.

Finally, a second wave of in-depth interviews was conducted with 13 of the original 15 respondents. This final step was an essential piece of qualitative investigation, which included consulting with the respondent about changes since the first interview and the researcher’s interpretation of the information provided by the respondent (called member-checking). This step is not necessary for quantitative studies, although longitudinal survey research requires follow-up interviews, which were built into the Illinois Families Study design and available for analysis. The final decision point (see Figure 1, Decision Point c) indicates that there was the possibility of returning to the survey data, but the researcher chose not to because the original questions had been addressed.

The sequencing of the qualitative and quantitative pieces was recursive, as each piece built upon knowledge gained in previous steps in a spiral, rather than linear, process. Some decisions about when to proceed with each step and whether to return to a particular method of inquiry were made as data became available; others related to the researcher’s interest in maintaining a perspective not influenced by a particular type of information. All steps were explicated so that the process was transparent to mediate potential impacts on the interpretation (i.e., researcher bias).
The sequence of research steps in the State Policy Study reflects the exploratory and predominantly qualitative focus of the study. Briefly, the research steps are as follows: First, the qualitative sample states were selected purposively. Next, qualitative data were collected from these states and analyzed with qualitative techniques including open and patterned coding and the development of a multimatrix display (Miles & Huberman, 1994). Based on this initial data analysis, quantitative data were obtained from publicly available sources, such as the Urban Institute and the U.S. Department of Health and Human Services (U.S. DHHS). Then, qualitative and quantitative data were combined in cross-case data analysis to develop a typology of state behavior. Finally, the quantitative data served as an independent source of statistical testing for the typology. These steps are outlined in Figure 2 and are discussed in more detail later.

**Sample selection in the State Policy Study.** In designing the State Policy Study, the researcher included both a qualitative and quantitative sample of states. As in the Access to Education Project, these two samples were nested. The larger quantitative sample was the universe of 50 states; the smaller qualitative sample \((n = 17)\) was purposively chosen to ensure a variety of state characteristics such as region of the United States, population size, and political orientation of state government.\(^8\) The sample size and purposeful selection of states across several features provided enough variation to analyze the differences and similarities in the ways states have (or have not) incorporated marriage and childbearing goals into their welfare systems.

The decision to include both qualitative and quantitative representation of states’ attitudes and behaviors diversified the data brought to bear on the research questions. The study employed the naturally occurring universe of 50 states. The qualitative sample of 17 states...
was inherently nested in the universe. The important decision points regarding sequencing in the State Policy Study were related to data collection and analysis, discussed next.

Data collection and analysis in the State Policy Study. The researcher collected original qualitative data and used publicly available quantitative data sets. Thus, rather than two distinct data collection steps, there was instead a qualitative data collection phase and a subsequent step during which public survey and administrative data were identified and selected for use.

The qualitative data came from three waves of field data collected in a 5-year longitudinal study of states and their implementation of TANF, Medicaid, and food stamps. The study relied on the field network methodology. This data collection method was developed to expand the capacity of single-state case studies in the investigation of intergovernmental effects (Lurie, 2003; Nathan & Gais, 1999). The field network methodology employs researchers based in each study state who operate as state reporters, collecting data from interviews and other sources recorded in a standard field report. The field reports serve as a collection of case studies with uniform areas of inquiry.

The quantitative data came from several publicly available sources such as the Welfare Rules Databook developed by the Urban Institute (Rowe & Versteeg, 2005) and the U.S. DHHS annual reports to Congress on the TANF program. Such data include state spending on various aspects of the TANF program as reported annually at the federal level.9

The qualitative case studies provided valuable detail regarding state policy and program implementation. A limitation of such data, however, is that they can be inconsistent across states and are limited in the degree to which they capture the nationwide response to welfare reform’s new family formation goals. The quantitative data regarding state behavior, by contrast, does offer this national scope but lacks the depth found in case studies. The inclusion of multiple types and sources of data in the study design helped to overcome these limitations and capture the rich detail of case studies as well as the breadth of trends that appear in the surveys of state policy choices.

The key decision point regarding the sequence of research steps came after qualitative data had been gathered (see Figure 2). The options were to analyze the qualitative field data right away or delay any analysis until the quantitative data were gathered. As Figure 2 shows, the qualitative analysis proceeded first. To understand why qualitative analysis preceded quantitative data gathering, it may be helpful to explore the counterfactual, which would entail quantitative data gathering and analysis prior to collecting or analyzing the qualitative field data. A study with this design might use survey data to inform qualitative inquiry—a common mixed method design. Such a design was quite feasible; many of the public data sets used in the study were available at the outset. However, recall that the primary focus of the study was not to predict or show the cause of states’ behavior but rather to explore a new phenomenon, state implementation behavior related to the family formation goals in welfare policy. The qualitative data offered detailed information about whether and how states implemented such policies and programs, and this information formed the core of the research.

In addition, because the study explored such a new area of state policy implementation, accepted theories of state behavior may not have been fully relevant; in fact, they could overshadow the interpretation of study results. Therefore, the study design included grounded
theory techniques and principles for the qualitative data analysis. This suggested delaying quantitative data collection and analysis until initial analysis of the field data, as the sequence in Figure 2 indicates.

Evolving Designs

It is unusual for any research design to move from initiation to completion without a hitch. New information about data collection, the sample, and methods inevitably affects the way a project is carried out. Mixing methods substantially increases the likelihood and the ways that unexpected turns can influence project design. Such was the case for the studies featured here.

For the Access to Education Project, adjustments during project implementation occurred in both the quantitative and qualitative pieces with regard to the issues of welfare recipient status and concurrent welfare receipt and college enrollment. In the survey, it was sometimes impossible to discern whether the women had received cash aid while they were also enrolled in college. In the in-depth interviews, several respondents said that although they were concurrently receiving cash aid and enrolled in college courses, they were not participating in the welfare college option. These women took paid jobs to fulfill the work requirements, and the welfare caseworker usually did not know the respondent was attending college. Thus, although the women were not using the college option policy, they were effectively achieving the desired outcomes by pathways hard to detect in the survey.

The study design was affected because the in-depth interview protocol was adapted to ask more specific questions about how the women were completing college degrees while receiving welfare; the quantitative model was revised to include more nuanced measures of public assistance use and cooperation of welfare workers. Another impact of these developments on the Access to Education Project was that the researcher needed to be aware that the reports were retrospective and sometimes incomplete and that causal inferences were impossible. Ultimately, the interpretation focused on context and meaning and on the respondents’ perspectives on their ability to engage in welfare, school, and work as parents dealing with poverty issues.

The above scenario illustrates how mixed methods projects evolve. Although the quantitative questions never changed, the model was adapted and the qualitative inquiry integrated new information into the design. The analysis centered on the respondents’ interpretations of how their experiences depended on their social circumstances and available resources. Given the results of these analyses, the quantitative model became even more useful in teasing out the most important factors in predicting enrollment for the population. The concept of access as a set of developmental pathways, rather than as a single, unified concept (Sosulski, 2004), progressed as the fundamental theory that emerged from the data, which anchored the project and results.

The State Policy Study also encountered unexpected turns during its implementation, the resolution of which yielded important findings. A key example of this design management is found in the juxtaposition between the qualitative state field reports and the quantitative state administrative data. The state field reports reflected the unique history and political environment of each state. This individualized lens on the states’ field reports produced a level of uneven information, however: What was thoroughly described in one
state was barely mentioned in another. For example, the report of one southeastern state included detailed descriptions of the political climate related to teen pregnancy prevention. Here, teen pregnancy was an issue of considerable local public salience. Celebrity involvement and prominent news stories elevated the pressure on state policy makers to proactively address teen pregnancy, and there was considerable enthusiasm for such activity. In a nearby state, however, similar field data on the local political climate was thin. This was not because the local field researcher was negligent. Rather, the state context was different—there was little to report. The family structure aspects of welfare policy were not of local public concern, and there was no significant public leadership or grassroots advocates calling on the state to address such issues.

However, the unevenness of the field data across the sample prompted the researcher to seek out quantitative data on state behavior from other sources while developing the descriptive analysis of state responses to federal family formation goals. Initially, the primary objective was to expand the data brought to bear on the exploratory question: What were states doing? However, the addition of the quantitative data in the descriptive analysis revealed unexpected discrepancies between the two types of data. In one state, the key informants’ perspective was that there was no family formation activity whatsoever within their state—it was expressly avoided or ignored. However, the Welfare Rules Database showed that the state had indeed made decisions related to two-parent families and work requirements (Rowe & Versteeg, 2005). In addition, federal data showed that the state had reported TANF spending to prevent extramarital pregnancy (U.S. DHHS Administration for Children and Families, 2004).

Thus, the gaps in the qualitative data ultimately led to a key finding: State administrators had individual understandings of what constituted family formation, which did not always reflect federal definitions. In some states, the definition was very narrow—family formation meant marriage promotion. In other states, it was quite broad, crossing into child welfare–based definitions of family preservation. Such an in-depth, simultaneous analysis of qualitative and quantitative data sources was not originally planned. However, such pursuit of answers to research questions reflected the tradition of inductive processes in qualitative methods (Creswell, 2003).

Analyses and Results

The following section presents selected findings from each study that result from combined analyses of the quantitative (secondary sources) and qualitative (primary sources) data and that the researchers consider unique contributions to the literature. First, we explain the techniques used to answer the study questions. Then, we describe selected results and implications of the interpretations of the combined analyses.

Access to Education Project Analysis and Results

Techniques in the Access to Education Project. The goal of the analysis was to describe the relationship between college enrollment and factors related to welfare policy while
illuminating a range of recipients’ experiences with pursuing postsecondary education. The relationships among the quantitative variables and qualitative themes were the key to understanding the experiences, so it was important to include both quantitative and qualitative expressions of them. The analysis identified several pathways to access, and importantly, the paths varied by the respondent’s poverty status, racial-ethnic background, and health status (Sosulski, 2004).10 The quantitative data set showed which factors were significantly associated with enrollment, and the interpretive analyses explained how those factors work in practice and how interactions among the variables may function for different people and/or groups.

The quantitative analysis began with key demographic variables in the survey data followed by theory-based variables. Recall that human capital theory lent items relating to individual achievement; social capital theory contributed factors relating to social networks and collective access to resources; and social exclusion theory added variables related to policies and program participation. The object was to account for processes occurring at the micro-, meso-, and macrolevels. Simple associations and logistic regression results helped explain how different variables may contribute to college enrollment for the larger sample of welfare recipients.

Analysis of the in-depth interviews focused on the respondents’ interpretations of the events that influenced their decisions to enroll in postsecondary education given their social location as current or former welfare participants.11 Human capital, social capital, and social exclusion theories also provided the foundation for creating themes concerning access to education and how much the college option and workfare program participation contributes to social exclusion. The methodological framework for conducting the interpretive interviews and analyses was based on standpoint theory (Smith, 1999) and therefore grounded in the women’s own interpretations of their experiences (Sosulski, 2004). Comparative case and extended case analysis methods (Burawoy, 1991) were adapted to guide further textual analyses.

Data coding in the Access to Education Project. Data for both quantitative and qualitative analyses were coded based on the thematic categories. Whereas some themes came out of the literature about welfare and higher education, others emerged from the in-depth interviews. Several of these mirrored the variables used in the quantitative analyses, and the results illustrate alternative perspectives on the significant factors in the survey data and interviews. For example, the respondent’s perspective on her identity as a mother, student, and/or worker was important in all of the interviews. This theme interacted with several variables in the quantitative model, such as the relationship between the age of the youngest child and enrollment (see Table 3, row 1).

Selected findings and intersecting points in the Access to Education Project. As Table 3 illustrates, the interactions of qualitative themes and quantitative factors produced several possible explanations for the findings. In the case of the mother’s identity and the age of the youngest child, these two variables were associated with increased likelihood of enrollment; this may be because of greater availability of child care for younger children and the motivation of mothers to act as role models for children who are just beginning
Table 3

**Selected Factors and Related Themes That Intersected in the Access to Education Study**

<table>
<thead>
<tr>
<th>Qualitative Themes</th>
<th>Factors in Quantitative Analysis</th>
<th>Conclusions From Results of Analyses Considered Together</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1. Identification with the mother role, roles as students and parents</td>
<td>Respondent (R) has at least one child under 6 years old (living with her)</td>
<td>This positive relationship seems to be counterintuitive, but younger children (not infants) often start preschool or daycare early and may need less mentoring; mothers see themselves as role models, need to go to college</td>
</tr>
<tr>
<td>Theme 2. Importance of work; college and work, but not through Temporary Assistance for Needy Families</td>
<td>R has health insurance through employer (compared with no health insurance)</td>
<td>Example of the convergence of factors: education, job, and insurance; many women who attended college did not tell caseworkers, working full-time to meet work requirements; primarily those with good enough jobs with health insurance could achieve this</td>
</tr>
<tr>
<td>Theme 3. Working with multiple systems and dealing effectively with caseworkers</td>
<td>Welfare experiences: caseworker explained rules; R has work requirements, cash aid</td>
<td>Social and human capital is increased by learning to navigate systems; effectively packaging income from multiple sources is a valuable skill that increases confidence in ability to enroll and persist</td>
</tr>
<tr>
<td>Theme 4. “Goal orientation,” or motivation to meet one’s work goals</td>
<td>Welfare office helps with educational expenses R receives food stamps</td>
<td>Focus on work and self-efficacy; when paid work can be obtained, often first choice over college, particularly for new and more seasoned workers</td>
</tr>
<tr>
<td>Theme 5. Increased self-reliance, autonomy, and self-determination</td>
<td>R has work experience, either 1-2 years or more than 10 years</td>
<td>Although it makes sense that having one’s own transportation would factor into increased autonomy, the negative relationship between social networks and college was surprising; this is explained in several different ways</td>
</tr>
<tr>
<td></td>
<td>R has driver’s license R has enough people to count on when help needed</td>
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school. Neither the regression results nor the testimonies from the in-depth interviews alone could have provided such a multifaceted account.

The combination of the quantitative and qualitative data allowed a representation of the results as detailed descriptions of factors as they emerged from the interviews. This approach highlights the interactions of the factors, uncovering both common aspects and considerable variation in the manifestation of the factors in different social contexts. Mixing methods, in this case, helped to identify and reconcile discrepancies, filling gaps in the explanations found in either the macro- or microlevel data alone.

The descriptions of the variables that emerged from combining the interpretive and quantitative analyses illustrated how factors played multiple roles at different levels, and they cannot be categorized simply. Instead, the themes and variables combined to form interpretive packages, illustrated by the rows in Table 3. Each package includes at least one interpretive (i.e., qualitative) theme that emerged from crosscurrents in the narratives of the in-depth interviews, at least one quantitative variable, and an interpretation that emerged. The table primarily shows results that were statistically significant or related to major qualitative themes. Just as important, however, are quantitative variables not statistically significant yet emphasized by respondents in the in-depth interviews, like the importance of cash assistance (see Table 3, row 2). The number of women in the whole population receiving cash assistance was quite small, and the variable was not statistically significant. But for those who were eligible, receiving cash aid was cited as essential to supporting their families. Welfare benefits were extremely important to some who were also students; it was the unique way respondents combined different income sources (i.e., income packaging) with their individual circumstances and preferences that determined how important welfare benefits were to enrollment.

Moreover, some respondents preferred to work to fulfill the welfare requirements than to take advantage of the college option. They maintained their college enrollment status apart from welfare participation even when it was a major burden or when they had benefits through work that helped sustain their families, as indicated in Table 3, row 2. Maintaining paid jobs made studying and caring for their families perhaps unnecessarily difficult; under the college option, they would either not have to work for pay or could work part-time and count their hours in class and studying as work. But one recurrent explanation in the interviews is that some women are excluded from the welfare college option often because of misinformation from welfare workers and policies requiring constant surveillance of their activities. Example 3 (Table 3, row 3) shows, conversely, that when the welfare office cooperated with them and they were able to receive services, the women were more likely to enroll in college. Example 4 suggests that despite the opportunity to attend college and strong interest in higher education in this sample—more than 80% of those with Grade 12 credentials indicated that they would like to or needed to gain college experience (Sosulski, 2004)—the respondents were more motivated to take jobs than to enroll in college when they had significant work experience or were just entering the workforce.

Along with support from welfare, the data showed that family influences were also important for these women, although in ways that may not appear consistent with current literature. The survey data showed that when the respondents reported that they had help with their needs (e.g., child care, financial assistance) from their families, they were less likely to attend college. However, the interviews explained how, when families were quite supportive, the
respondents may feel more pressure to work to meet more immediate needs rather than progress toward longer term goals (see Table 3, row 5). These findings are interesting in and of themselves, but when partnered with the finding that having one’s own driver’s license (i.e., perhaps less reliance on family or friends) strongly predicted college attendance, it may explain how having family to count on could potentially hinder progress toward enrollment. These relationships are ripe to be more fully explored in further research.

Another surprising phenomenon that emerged in the mixed analyses was that a similar trajectory emerged for welfare recipients who become students and those who found paid employment through welfare job-training programs. Some job-training programs showed great success, and some welfare recipients were quite enthusiastic about their job-training programs; others were severely disappointed and critical of their experiences. The interviews showed that in successful cases, job training demonstrates characteristics of successful educational environments, including intensive individual training, mentoring, and regular advancement to higher levels of challenge and achievement. By contrast, welfare recipients who took the college option but were denied all of the resources they needed were likely to drop out before graduation or live in unnecessary impoverishment.

Two unusual cases in the in-depth interviews highlighted this contrast (Sosulski, 2004). Shawn (all names have been changed), who used the college option for a short time, and Megan, who found a good job through a job-training program, might both seem to illustrate successes in the aggregate data. However, Shawn was sanctioned off welfare when her caseworker decided that she must also attend job training, and she lives today without welfare and only a part-time job that keeps her and her daughter in poverty and acquiring debt as Shawn completes her associate’s degree. Megan, on the other hand, underwent several months of closely supervised training that stepped up expectations by degrees as she learned skills, which helped her complete the training. The college option, as it functions in many cases, is not an attractive opportunity; these findings suggest complex reasons for why the survey data show that few women choose the chance to go to college and the significance of (or lack thereof) supporting variables.

State Policy Study Analysis and Results

In the State Policy Study, grounded theory techniques were used to analyze qualitative field data of each state’s policy-making process and program implementation. Open and patterned coding generated a set of themes related to how states responded to the family formation goals in welfare reform and the resulting TANF program. An example of one such theme is that in some states program administrators felt family formation programs were not appropriate activities for the welfare agency. In these states, there was considerable discomfort with these goals; the field data showed an expressly identified consensus to eschew family structure issues. “We are not a moral authority,” stated one TANF administrator (State Capacity Study, 2001). Other program administrators were concerned about domestic violence in addition to sensing a mismatch between personal choices about family structure and state involvement. In a Rocky Mountain state, for example, “State officials have decided to emphasize work and not to take on the life-style issues such as teen pregnancy and strengthening two parent families that many conservatives champion” (State Capacity Study, 2001).
After coding and identifying themes, dimensions of state variation were identified through qualitative cross-case analysis and organized into a typology of state responses to the family formation goals. During this phase of analysis, metamatrices, or master charts, were used to assemble descriptive data from each of the 17 states. This type of metamatrix displays key variables for easy comparison across cases. At this point in the analysis, qualitative and quantitative data sources truly became united; data for the metamatrix came from field reports and administrative data.

Some researchers think of this as triangulation, and that was part of the motivation to include state administrative data—it introduced an important and uniform source of information about the sample states. More important, however, the inclusion of quantitative data in the cross-case analysis led to additional analysis of the field data that added a dimension that would otherwise have been absent from the study. For example, state efforts to influence the family formation behavior of individuals receiving cash assistance fall into two groups. One set of states uses family planning and other pregnancy prevention strategies to prevent births. Another set of states uses financial incentives and other strategies to encourage or support two-parent households. Several states engage in both strategies, and others are not engaged in either (see Table 4).

The field data describe, in considerable detail, the policies and programs states implemented to prevent pregnancies and encourage two-parent family structures. They launched youth development and abstinence programs, offered family planning services at local welfare offices, changed work rules for two-parent families, and in the case of one state, gave cash incentives to couples who married. Yet administrative data on state TANF programs suggests there was little activity on the part of states related to family formation. Specifically, data collected at the federal level shows states spent tiny portions of their TANF dollars on either preventing pregnancies or encouraging the formation of

### Table 4

**Typology of State Strategies to Influence Family Formation**

<table>
<thead>
<tr>
<th>Policies related to parent structure</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Florida</td>
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<td>Ohio</td>
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<td>Tennessee</td>
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<table>
<thead>
<tr>
<th>Policies not related to parent structure</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Kansas</td>
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<td>Wisconsin</td>
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two-parent families. As reported by the federal government for fiscal year 2002, the median rate states spent on pregnancy prevention was 0.02 percent of total state TANF dollars; state spending on two-parent family formation was slightly higher at 0.33 percent (U.S. DHHS Administration for Children and Families, 2004). The conflicting findings from the two different data sources prompted additional qualitative analysis of the field data. This analysis yielded a key finding: State definitions of family formation varied considerably. In several states, for example, the family formation goal of support and maintenance of two-parent families was transformed into, as one field report explained, the “maintenance of families, however configured” (Northeastern State in the State Capacity Study, 2001).

Discussion and Conclusion

Mixing methods is an important tool for answering complex questions, and it can take many forms. This approach takes time, expertise, and resources, however, and it is not appropriate for every question. But it can produce strong, unique results.

It is essential for researchers, having decided to follow the mixed methods route, to continually assess the research as it proceeds and to document the process. This point cannot be made strongly enough: Although the work may not be replicated, it must be transparent so that multiple interpretations may surface. At the same time, the conclusions the researchers draw must be explicit and reasonable, reflecting their firsthand experiences of the data and expertise in the area. Most important, the combination of methods must produce findings that most accurately represent a range of the study respondents’ experiences and perspectives.

In part, the limits of these studies lie in the data, as secondary sources often lack certain variables, and particular constructs may be difficult to measure or assess, even in in-depth interviews. A lack of resources, including time and money, may lead to limiting data collection or reducing the number of iterations of the analysis. The strengths of well-designed mixed methods studies, however, are that the data are complementary and can either reinforce confidence in what we know or develop a better understanding of what we yet do not know. The analyses should clearly indicate further questions and directions for research, rather than heightening confusion and revealing fissures in the knowledge base. Confidence comes from understanding the purpose of the research, the types of knowledge we have to build on, where we derive the data, and how we choose to interpret the information we gather and combine.

Specifically, in the Access to Education Project the way the data sets interacted goes beyond triangulation. A rich contextual interaction of the factors’ descriptions and functionality emerged through the interface of the methodologies that would otherwise have been obscured. Key relationships were highlighted, showing how the pathway to college for these women was not an additive set of factors but part of an ecological map that varied individually yet reflected consistent themes. Factors at the individual, family, community, policy, and institutional levels were both statistically significant and qualitatively meaningful in constructing an ecologically based concept of access.

The explicitly political factors imposed on individuals through policy influence the decisions of potential students. This study was able to further examine the cultural context
and ways that recipients’ responses are shaped by social location and how, in turn, respondents influence the political and cultural environment (Eliasoph & Lichterman, 1999). Although Illinois welfare policy, as written, encourages college participation, actual use of the college option by welfare recipients is rare. The analysis used three different ways (i.e., descriptive regression analysis and comparative case and extended case qualitative analyses) to compare the experiences of respondents able to attend college with those who tried but were diverted. The integration of the results of these analyses helped uncover the multifaceted processes that facilitated the outcome, enrollment in college.

For the State Policy Study, combining the typology of state behaviors with independent measures of conceptual relevance highlighted the limits of reliance on either survey data or case studies alone to understand state implementation. Clearly, exclusive reliance on state spending offers a different perspective of state implementation than do findings from the cross-case analysis. Perhaps either the case analysis or the spending data is a poor measure of state behavior. One could argue instead, however, that neither approach to the study of implementation is adequate by itself because the policy area is so highly devolved, with little guidance at the federal level and tremendous variation in political and social contexts. In such cases, studies of policy implementation need to capture as full a view of state activity as possible, assuring that findings are well grounded in the context and nature of state provision. Findings from studies that combine qualitative and quantitative methods can give this fuller, more accurate picture of policy implementation. In the end, the goal of such research is to better understand state behavior and, ultimately, how the implementation choices of states may affect the families they serve.

Ultimately, with an understanding of the intersections of the qualitative and quantitative data and analysis, the results point to several different kinds of solutions. The results tend to uncover multidimensional answers, with implications for individuals and the different parts of their social systems. For example, the Access to Education Project analysis shows that attitudes about work, school, and motherhood all affected women’s ability to enroll, as did their access to supports through family and institutions. If the state intends to increase use of the college option, policies may be developed to reinforce the strengths that the women have. In addition, programs that allow for flexibility in work requirements and provide greater confidence of continuing institutional support through caseworkers, for example, may be a simple, low-cost answer for the relatively small percentage of recipients who will enroll.

The State Policy Study showed that when states have the chance to develop their own definitions of family formation and design programs to support families, they are able to find creative responses that meet the needs of their populations. Importantly, the influence of state-level activism was shown to be integral to the process. Citizen action was, in some cases, the primary force behind the ways policies and programs were shaped and implemented. These findings are particularly inspiring for individuals and institutions that would promote greater responsibility and collaboration between individuals and government.

Although these studies were multiyear ventures with a great deal of time and effort put forth on the part of the solo researchers, each study was relatively low cost. The studies relied on existing data and took best advantage of resources that were in place at the researchers’ home institutions and through strong research networks. The extensive contacts the researchers made laid a foundation for future research and informed policy, as well as
provided a basis for community action in the study sites. The strength of the results lies in the life they have after the study is technically complete. Mixing methods, when appropriately and thoughtfully executed, can extend the life and usefulness of researchers’ efforts.

**Appendix**

**Table of Acronyms Used in the Access to Education Project and the State Policy Study**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEP</td>
<td>Access to Education Project</td>
</tr>
<tr>
<td>SPS</td>
<td>State Policy Responses to Federal Family Formation Goals, or State Policy Study</td>
</tr>
<tr>
<td>IFS</td>
<td>Illinois Families Study</td>
</tr>
<tr>
<td>PRWORA</td>
<td>Personal Responsibility and Work Opportunity Reconciliation Act</td>
</tr>
<tr>
<td>TANF</td>
<td>Temporary Assistance to Needy Families</td>
</tr>
<tr>
<td>AFDC</td>
<td>Aid to Families With Dependent Children</td>
</tr>
<tr>
<td>U.S. DHHS</td>
<td>U.S. Department of Health and Human Services</td>
</tr>
</tbody>
</table>

**Notes**

1. These two studies were independently designed and implemented. We later noted similarities in our research methods and pursued collaborative work.
2. For ease of readability, the full names of policies and programs are usually used. For a list and explanation of acronyms used in these studies, however, see the appendix.
3. For a selection of views on the “paradigm wars” and evidence of perceived tensions between quantitative and qualitative methodologies from several disciplinary perspectives including social work, education, and sociology, see Adams St. Pierre (2002); Creswell (2003); deLeon (1998); Fischer (1998); Heineman-Pieper, Tyson, and Heineman-Pieper (2002); Oakley (2000); and Teddlie and Tashakkori (2003). Morgan (2007) provides a thorough discussion of the theoretical and practical implications of integrating the quantitative and qualitative traditions.
4. For a discussion of several perspectives on issues of evaluation and the issue of yield with respect to mixed methods research results, see Tashakkori and Teddlie (2003a) and O’Cathain, Murphy, and Nicholl (2007).
5. For more detailed presentations of the policy critiques and results of the analyses, see Sosulski (2004) and Lawrence (2007).
6. The original sample was randomly selected from nine Illinois counties; weights were applied to account for regional stratification. The sample originally consisted of 1,899 recipients, with a 74% response rate for Wave 1, an 87% retention rate for Wave 2, and a 91% retention rate at Wave 3. For more information about the Illinois Families Study survey sample, see the Second Technical Report from the Illinois Families Study, *Welfare Reform in Illinois: Is the Moderate Approach Working?* (www.northwestern.edu/ipr/research/IFS.html).
7. Member-checking is the process of “taking data/interpretations back to the people from whom they came in the first place. . . . The implication is that if one’s research participants agree with the interpretations which constitute the research ‘findings,’ then more confidence can be had in their reliability” (Oakley, 2000, pp. 62-63).
8. For a fuller discussion of the sample and its characteristics, please see Lawrence (2007).
9. For a fuller discussion of these data sources, please see Lawrence (2007).
10. Demographic factors, including race, gender, county of residence, health, and marital and employment status, were controlled for in the statistical analyses. See Sosulski (2004) for a full description of the model.
11. The concept of social location describes people’s individual experiences in relation to cultural and structural boundaries (King Keenan, 2004); the idea is complementary to ecological and systems theories used in social work practice, but social location hinges on power relationships that influence clients’ perspectives and actions (Kondrat, 2002).
12. For a full description of the qualitative themes and evidence to support them, please see Sosulski (2004).

References


