AN ABSTRACT OF THE DISSERTATION OF

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Title: Informal Social Support and Attrition Among Nonpartnered, Rurally-Located, Poor Mothers.

Abstract approved:

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This qualitative study used interview transcripts to find clues to attrition from a longitudinal study among nonpartnered, rurally-located, poor mothers, a generally vulnerable population with characteristics commonly associated with attrition (low-income, low levels of educational attainment, and rural location). Drawing on Rural Families Speak data, the author used the number of family members and friends living in close proximity to mothers, and mothers' descriptions of their family members and friends (including boyfriends) and the quality of their relationships with these individuals to predict whether mothers would drop out of the study after Wave 1 (*attriters*), stay in the study through Wave 3 despite moving (*continuer-movers*), or stay in the study through Wave 3 while remaining in place (*continuer-nonmovers*). Analyzing data through the lens of the affect theory of social exchange, the author was unable to consistently predict the groups to which mothers belonged. Trends supported the use of affect theory of social exchange as preferable to classic social exchange theory in predicting outcomes with this sample. In ad hoc investigations, the author found that *attriters* and *continuer-movers* differed significantly with respect to age

and education, and that these two demographic variables were useful in predicting outcomes for these two groups. The findings also revealed the importance of establishing consistent protocols in longitudinal research, particularly when data are collected from widely dispersed geographic locations. The findings led the researcher to recommend using a more contextual framework and a mixed methods approach to studying attrition and informal social support. The author recommends that future, similar research include interviews of continuers to learn what factors contribute to their decisions to stay in longitudinal studies, and that adequate funding for the implementation and oversight of consistent protocols be provided.

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Informal Social Support and Attrition Among Nonpartnered, Rurally-Located, Poor Mothers

by
Frederica A. Amity

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Frederica A. Amity, Author

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Informal Social Support and Attrition Among Nonpartnered, Rurally-Located Poor Mothers

Chapter 1: Introduction

The impetus for this study, indeed the driving force behind my return to graduate school, stems from my career as a mental health counselor. After earning a Master's degree in Mental Health Counseling, I worked for 13 years as a counselor in various settings including community mental health and outpatient alcohol and drug treatment for adolescents and adults. For the six years prior to my return to graduate school to pursue my Ph.D., I worked as a counselor at a community college. The department in which I worked contracted with the Oregon Department of Human Services to provide a range of services to cash welfare (Temporary Assistance to Needy Families – TANF) recipients. I worked with almost exclusively unmarried mothers living well below the federal poverty line. They lived in cities ranging from 50,000 people to communities of under 100 people 15-30 miles away from towns of 4,500 - 13,000. When I worked with these women, I witnessed their daily struggles to overcome numerous barriers in their mandated quest to achieve policy-defined "self-sufficiency." Those mothers who had family members in close proximity had to make daily decisions about how much to rely on them for help with child care, transportation, and living arrangements. On a daily basis, they had to weigh the costs and benefits of a range of scenarios.

They faced challenges finding consistent, reliable, affordable child care. Some women allowed mere acquaintances to babysit their children. Others asked friends to provide child care only to find no one home when they attempted

to drop off their children. A young mother with whom I worked complained bitterly about how her mother had raised her. Nonetheless, her mother regularly watched her children. When I asked why she allowed her mother to care for her children when she appeared to have such a low opinion of her mother's parenting skills, her response was, "My mother is my rock. She may be covered with moss and slippery, but she's my rock."

Those in outlying areas had marked difficulty participating in mandated activities due to the complexities associated with accessing transportation. Members of a two-parent household lived in a community of approximately 100 people close to 30 miles from the location where services were provided. Of course, there was no public transportation where they lived. They had two vehicles on their property, neither of which functioned. The father of the family attempted to extricate a third vehicle from overgrown blackberry bushes in the hope of resurrecting it. The primary reason they lived in such a remote location was because the father's mother owned the property on which their mobile home was situated. Though they did not have to pay any rent, they also repeatedly lost cash benefits because of their failure to show up for assigned activities, such as work readiness classes (soft skills development), job search activities, and volunteer work experience placements. This family's circumstances illustrate well some of the unique challenges faced by those living in rural poverty.

Because rural poverty is understudied relative to urban poverty, participation by rurally located, poor families in longitudinal research is especially valuable. Low-income populations, however, are likely to drop out of research

projects, and members of rural communities may be even more likely to do so (Cotter, Burke, Loeber, & Mutchka, 2005; Morse & Durkin, 2004; Young, Power, & Bell, 2006). We do not really understand why some participants in longitudinal studies complete all waves of data collection and why others do not. Rurally located, poor, single mothers and their children are particularly at risk in a general sense and especially vulnerable to attrition.

When attended to, attrition has been addressed almost exclusively using demographic data. Thus, exploration of attrition using qualitative data from a longitudinal study of low income and poor families living in rural environments provides a unique path to understanding more about the population and more about how to minimize attrition with this population. What do leavers look like compared to those who do not leave? What approaches might be employed to minimize attrition? The study of people through longitudinal research is a costly endeavor. High levels of attrition equate to a lost investment. Ultimately, how do researchers assure a return on their investments?

Rural poverty is less frequently studied than urban poverty despite the fact that rural residence accounts better for risk of chronic poverty than do factors such as demographic characteristics, marital status, human capital, work effort, and job quality (Snyder & McLaughlin, 2004). In fact, since poverty rate tracking began, nonmetro poverty rates have consistently been higher than metro poverty rates (Economic Research Service, 2004). In 2002, the poverty rate in nonmetro areas was 14.2% whereas the poverty rate in metro areas was 11.6% (Economic

Research Service, 2004). As of 2009, these rates were 16.6% and 13.9% for nonmetro and metro areas, respectively.

Multiple factors are commonly associated with the presence of poverty: family structure, gender, race/ethnicity, level of educational attainment, and residence. These factors are inextricably intertwined, which may lead to extreme poverty among certain groups. For rural nonpartnered mothers, for example, the economic disadvantages of living in rural areas are superimposed on disadvantage linked to gender and family composition.

I am undertaking the current study because rural poverty is understudied in comparison to urban poverty and because female-headed families in rural environments have consistently higher poverty rates than other groups. In 2003, for example, 36.2% of rurally located, female-headed households lived in poverty, compared to 28.9% of their urban counterparts (Economic Research Service, 2004). Further, the rural environment poses challenges to daily life that are either not found in urban areas or are more easily remedied in urban areas, including physical isolation accompanied by sparse population and a lack of infrastructure (Jensen, 2006). Formal social networks are lacking and facilities providing services are open too few hours or at inconvenient hours. Rural communities may also lack high quality childcare, particularly during nontraditional work hours.

Distinctions between urban and rural poverty also can be drawn based on labor market characteristics, individual characteristics, and/or community social norms (Blank, 2005). Fewer opportunities for training and education exist in rural

areas, and fewer job opportunities, especially well paying ones, are available in rural settings (Brown & Lichter, 2004; Cochran, Skillman, Rathge, Moore, Johnston, & Lochne, 2002). People living in rural areas are less likely to have high school diplomas. Even when single female heads of household in nonmetro areas have high school diplomas, some college, or a college degree, their education increases their earnings to a lesser extent than does comparable educational attainment for single female heads of household living in metro areas.

Another difference between rural and urban settings is that social norms in rural communities may be more powerful and restrictive than those in urban communities (Blank, 2005; Sherman, 2006). Greater stigma is attached to welfare receipt in nonmetro areas than in metro areas. In rural communities, then, poor people may opt to pay a price financially in order to reap the anticipated benefits of maintaining a positive image in the eyes of their neighbors. Poor families may forego formal support for which they are eligible, such as government benefits, in an effort to preserve what status they can. The range of factors that puts poor rural families at risk in general also contributes to their vulnerability to attrition from longitudinal studies.

Attrition is seldom examined in longitudinal research despite having potentially significant implications for the findings of such research. When it is addressed, attrition is usually explained using only demographic characteristics. We know that those of lower socioeconomic standing (Cotter et al., 2005; Morse & Durkin, 2004; Young, Power, & Bell, 2006), lower educational attainment

(Cotter et al., 2005; Morse & Durkin, 2004; Siddiqui, Ohidul, Flay & Hu, 1996), and those living in rural environments are all more likely to drop out of longitudinal studies (Cotter et al., 2005). Not only do we lose the ability to apply findings to a population if the sample becomes skewed due to attrition, we also may simply lose from the sample subgroups most in need but whose challenges remain unidentified and therefore unaddressed.

In quantitative terms, when participants in a longitudinal study are lost permanently, or even temporarily, power of the findings, internal validity, and external validity are compromised. Conclusions drawn from research or findings regarding program effectiveness may be suspect if attrition has been significant and skewed. In qualitative terms, attrition can affect the trustworthiness of a study (Bloomberg & Volpe, 2008; Rudenstam & Newton, 2001). If participants are lost from the study, researchers may be left with inadequate numbers to achieve saturation (Morse, 1995; Rudenstam & Newton, 2001). Even if saturation is achieved, it may exclude data that would have arisen in the absence of attrition (Morse, 1995). It is important in qualitative research to maintain sample size. With high rates of attrition, the sample may no longer reflect the unique constellation of factors the researcher originally intended to study.

Some patterns to attrition have been identified when studies have examined the phenomenon. First, several studies of varied populations indicate that those of lower socioeconomic status (SES) are more likely than their higher SES counterparts to be attriters (Cotter et al., 2005; Morse & Durkin, 2004; Young, Power, & Bell, 2006). Second, those with higher levels of educational

attainment are more likely to continue in longitudinal studies (Cotter et al., 2005; Morse & Durkin, 2004; Siddiqui, Ohidul, Flay & Hu, 1996). Third, in two studies, 45% of attrition occurred because participants could not be contacted after the first wave of data collection (Bates, 2004; Rogers, Fernandez, Thurber, & Smitley, 2004).

Data from the Rural Families Speak project provide the opportunity to explore complex issues of poverty, rural location, family composition, and attrition. The project began in 1998 and was completed in 2003. The original intent of the study was to explore effects of the then newly implemented welfare reform bill (Personal Responsibility and Work Opportunity Reconciliation Act) on low-income and poor rural families. Research teams from 13 states collected two or more waves of data ($N = 397$). To be eligible to participate in the study, mothers had to be at least 18 years old, eligible for Food Stamps or the Supplemental Nutritional Program for Women Infants and Children (WIC), and have a household income under 200% of the federal poverty level, and families were required to have at least one child younger than 13 years of age living in the home. In 1998, at the outset of the Rural Families Speak study, the Federal Poverty Level for a family of 4 (1 adult and 3 children) was $16,588. Participants were initially recruited through agencies already working with low-income and poor families. Additional participants were identified using snowball sampling. Eighty percent of the counties involved in the project were nonmetropolitan counties with urban populations of 2,500 to 19,000 or with no towns over 2,500 people.

At Wave 1, Rural Families Speak researchers used mixed methods to obtain a wide range of data on the participant families, including demographic characteristics, economic and general well-being, employment status, income adequacy, food insecurity, and life satisfaction. Researchers also assessed general health issues such as total number of health problems, substance use, and access to health insurance. Analysis of transcripts of face-to-face interviews with the mothers revealed themes consistent with rural, low-income, single mother households: childcare, family issues, economic stress, employment, education, transportation, health, mental health, formal and informal social support, and concerns about the future (Bauer, Braun, & Dyk, 2003; Duncan & Brooks-Gunn, 2000; Lichter & Crowley, 2002; Mills & Hazarika, 2003; Reschke & Walker, 2003).

The Rural Families Speak project had both strengths and limitations. The use of a "multi-state, multidisciplinary approach allow[ed] for a better understanding of the many facets and complexities faced by rural low income families . . ." (Bauer, 2004, p. 1). Collecting data in states across the country also enhanced researchers' ability to identify commonalities among poor families living in rural locations around the nation (Bauer, 2004). In addition, the longitudinal nature of the study allowed researchers to identify changes over time. Using the Rural Families Speak dataset, it is possible to use qualitative data and go beyond demographic characteristics to consider how informal social support might influence attrition. These strengths make the data well suited to the present study.

The dispersed nature of the study, however, presented some challenges and limitations. For example, not all states participated in all waves of data collection: Wyoming was excluded from the present study because researchers in that state collected only one wave of data. Furthermore, because interviewers and interviewees differed across states, the data provided in interview transcripts show varying degrees of richness and quality. Only some participants identified and provided contact information for three people who would always know how to find them, making it more difficult for researchers to track them over time. Despite this drawback, the data still provide a useful window into the lives of this understudied population.

A limitation of the Rural Families Speak project that holds special relevance to the present study is the rate of attrition. The attrition rate from Wave 1 to Wave 3 was 35.7%, comparable to that of at least one other longitudinal study of low-income families (Smith, Krannich, & Hunts, 2001). The loss of more than one third of the original sample may adversely influence researchers' ability to draw conclusions about how welfare reform affected rural, low-income families. If continuers differ significantly from attriters, findings relevant to continuers may prove irrelevant to attriters.

The focus of the current study is on the potential relationship between informal social support and attrition. Informal social support is especially important in rural settings. In American culture, the mystique of rural life holds a special appeal. Historically, we have idealized life in the country. Rural environments are perceived as being safer than their more urban counterparts.

As such, they are thought to provide the perfect environment in which to raise children. Rural families are envisioned as traditional in composition, unchanging, and close-knit. Rural communities are seen as family-oriented with strong ties among community members (Struthers & Bokemeier, 2000; Willits, 1990).

The reality of rural life, however, stands in stark contrast to the ideology of rural life. Despite the conception that rural life is safer than urban life, gangs are expanding into rural areas, and drug and alcohol use tends to be ignored or minimized (Struthers & Bokemeier, 2000). Risks unique to rural life include the potential to be shot accidentally during hunting season, to live in an environment damaged by exposure to pesticides, to have contaminated well water, to be exposed to zoonotic diseases, and to experience domestic violence and child abuse related to geographic isolation (Struthers & Bokemeier, 2000).

Counter to the sense that rural communities are supportive and family-oriented, participants in one study reported that both informal and formal support were offered only on a short-term basis (Struthers & Bokemeier, 2000). In other words, family members, friends, and agencies were willing to help, but only temporarily. Participants reported that formal support services were rendered with increasing reluctance over time, and that single-parent and poor families were not welcome in the community (Struthers & Bokemeier, 2000).

Despite the perception that self-reliance continues to function as the underpinning of rural communities, it is also believed that rural communities provide strong community-based support to its residents (Struthers & Bokemeier, 2000). Nevertheless, independence and interdependence are valued in rural

communities. A single mother with little to no income who needs help may be neither accepted nor supported by the community (Struthers & Bokemeier, 2000). Not only does her single parent status detract from her acceptability in a community wed to traditional values, her dependence on formal and informal support systems runs counter to the norm of reciprocity (equitable interdependence) in rural communities. In a rural community, people may be willing to assist extended family members or neighbors, but they expect others to return the favor. When a woman in the community rarely, if ever, finds herself on the giving end of exchanges, she violates that norm of reciprocity, which then jeopardizes her ability to continue to access informal social support. Those with resources may resist exchanging them once they realize the costs incurred significantly outweigh the rewards (Fitchen, 1991). Such resistance may be more commonly found among family members, friends, or neighbors who render informal social support as opposed to agencies, officially charged with the task of providing formal social support. Formal social support, however, is relatively absent in some rural communities, which is problematic for poor, nonpartnered mothers in rural areas.

Understanding who is not studied in research on rural poverty is critical to advancing knowledge in the field. In this study, I use qualitative methods to identify relationships between participants' reported experiences of informal social support and their attrition from a longitudinal study through researchers' loss of contact. The aim of the study is to answer the question: What reported experiences of informal social support at Wave 1 are associated with the attrition

of poor, rural, nonpartnered mothers through loss of contact, from the Rural Families Speak project?

Chapter 2: Literature Review and Theoretical Framework

The goal of this chapter is to lay the foundation undergirding the present study. To this end, I set the stage through a discussion of poverty in the United States, emphasizing unique aspects of rural poverty. I then describe in detail the theoretical framework I use - social exchange and the affect theory of social exchange, and provide a literature review of the following areas: (a) informal social support for poor, rural women; and (b) attrition and longitudinal research.

Poverty in the United States

Despite our relative affluence, the U.S. has a long history of deep and pervasive poverty. Through extensive research, investigators have characterized the poor population, finding that poverty is more common in some groups than others. For example, poverty is especially common among families with a female head and no husband present. Twenty-four percent of such families were poor in 2000, and 29.9% of these families were poor in 2009. This proportion is much higher than that of male-headed families (13.8% in 2000, 16.9% in 2009), married couple families (4.7% in 2000, 5.8% in 2009), and all families (8.6% in 2000, 11.1% in 2009) (U.S. Census Bureau, 2000; U.S. Census Bureau, 2009). At Wave 1, collected in 1999 and 2000, approximately 40% of Rural Families Speak participants identified themselves as single, divorced, or separated. The current study focuses on these nonpartnered, female heads of household from the Rural Families Speak Project.

Race and ethnicity have a strong bearing on poverty rates and are considered in the present study. In 2009, White, non-Hispanics had the lowest poverty rate at 9.4%, whereas African Americans and Hispanics of any race had poverty rates of 25.8% and 25.3%, respectively. The most recent poverty rates for American Indians or Alaska Natives was 25.3% (U.S. Census Bureau, 2009). At Wave 1, the Rural Families Speak sample was 64.6% White non-Hispanic and 21.5% Latina. This distribution reflects the populations of the states involved, except that researchers in California, Michigan, and Oregon oversampled Latinas.

Of particular relevance to the present study, research shows that place of residence (rural or urban) influences poverty status. Rural residence trumps demographic characteristics, marital status, human capital, work effort, and job quality in explaining risk for chronic poverty (Snyder & McLaughlin, 2004). In 2000, the poverty rate inside Metropolitan Statistical Areas (MSAs) was 10.8%; the poverty rate outside MSAs was 13.4% (Abbott, 2008). In 2009, the poverty rate inside MSAs was 13.9%; the poverty rate outside MSAs was 16.6% (U.S. Census Bureau, 2009). The U.S. Census Bureau defines a Metropolitan Statistical Area as a geographical area containing a large population center, of one million or more, that is tied socially and economically with adjoining communities (U.S. Census Bureau, 2009). In 2000, the poverty rate for female-headed households in rural areas was 34.9% (Economic Research Service). As indicated in the introduction, nonmetropolitan counties with no urban populations

over 19,000 comprised 80% of the counties from which Rural Families Speak participants were drawn (Bauer, 2004).

Theoretical Framework

I use affect theory drawn from social exchange theory to frame my analysis of the relationship between reported experiences of informal social support and attrition from a longitudinal study through loss of contact. In this section, I describe foundational concepts of social exchange theory, identify criticisms of social exchange theory, and discuss ways in which the affect theory of social exchange enlarges on traditional social exchange theory.

Social Exchange Theory

Social exchange theory, derived from economic and psychological theories, purports that relationships consist of a series of exchanges of resources, costs, punishments, and rewards. Emerson (1976) aptly describes exchange theory as the “economic analysis of noneconomic social situations” (p. 336). Resources are “currency”; tangible or intangible materials others would find desirable. Costs are the drawbacks, material or otherwise, of any exchange. Some theorists state that punishment is also a factor in social exchange. For example, Molm (1991) contends that punishment has a greater impact on satisfaction with relationships because it is generally less expected than rewards. Finally, rewards are the benefits or positives received through any exchange.

Exchanges can be grouped into two different types on the basis of their duration. Macroexchange theory gives us the concepts of restricted and generalized exchanges (White & Klein, 2002). Restricted exchanges consist of

one-time exchanges that require little trust. An example of a restricted exchange is when someone purchases gasoline while on a trip. That person stops at a particular gas station once, pays an attendant or cashier in exchange for service and a product, and never sees that person again. Usually there is little at stake in restricted exchanges. Generalized exchanges, however, require higher levels of trust and occur over longer periods of time. Trust and commitment allow for flexibility regarding fairness and reciprocity (Scanzoni, 1979). If people know that the party with whom they are exchanging will not exploit them or abandon the exchange, they are more likely to tolerate the absence of immediate reciprocity. We remain friends with those with whom we develop trust over time. Our good friends are often people on whom we can rely time and again. In fact, generalized exchanges would seem to form the core of exchanges among family members and close friends.

An implied element of all generalized interactions is that of satisfaction. We continue to be friends with someone because we are satisfied with our relationship with that person; we enjoy the quality of our interactions. Satisfaction is directly related to the perceived profitability of exchanges. We are satisfied with the relationship because we find it profitable or rewarding in some way. A valued person may offer rewards such as companionship, emotional or financial support, or practical assistance such as help with projects, maintaining a household, child care, or transportation. We may further derive satisfaction from being the ones with resources, able to provide others with various types of support.

According to social exchange theory, satisfaction can be a strong determinant in whether relationships continue. Thibaut and Kelley (1959) addressed the issue of satisfaction in relationships through the concept of *comparison level* (CL). They argued that past experiences and expectations affect our assessment of satisfaction in current relationships. People evaluate the outcomes of exchanges on the basis of what they have obtained in past relationships (cognitive exchange orientations), and on how they perceive social norms regarding similar relationships (normative exchange orientations). If, for example, a woman's parents have been critical of her and declined to act supportively in the past, she may be less likely to ask for their assistance as new challenges arise because the relationship has historically been unsatisfying (cognitive exchange orientations). Similarly, the woman's perception of her parents as more judgmental and less helpful than most parents may further discourage her from seeking their support because she views her relationship with them as less satisfying than other parent – adult child relationships (normative exchange orientations).

Thibaut and Kelley (1959) also discuss *comparison level for alternatives* (CL_{alt}) as a factor influencing the staying power of relationships. CL_{alt} constitutes the minimum reward level someone will accept in a relationship given the potential rewards available in alternative situations. Using Thibaut and Kelly's (1959) concepts of CL and CL_{alt}, a rewarding relationship may be likely to last because high levels of rewards make alternatives pale in comparison; it is also possible that an *unrewarding* relationship lasts because no alternatives would

provide more desirable rewards. Take the example of a nonpartnered mother who receives help (intermittent child care) from her parents. Suppose her parents also regularly criticize her and complain about her dependence on them. If the nonpartnered mother has no other source of support nearby, she may accept the cost of her parents' judgment along with the reward of their assistance. It is a price she concludes she must pay to gain the rewards. This combination is the minimum reward and highest cost she is willing to accept based on alternatives available to her. If the nonpartnered woman's supportive aunt moves to the same town, however, the minimum reward she will accept in her relationship with her parents may change. Let us suppose that her aunt was once a single mother herself, is retired, and happily agrees to provide child care whenever the single mother needs it. The aunt does so without hesitation and without judgment. The availability of this alternative may result in the single mother's decision to no longer accept her parents' harsh judgment because she is able to obtain the same reward (child care) from her aunt without the cost of that judgment. In both these relationships, imbalances and sources of dissatisfaction may raise issues of equity and reciprocity.

Equity and reciprocity.

The concept of equity suggests that profitability of (or satisfaction with) a relationship is directly related to the fairness of exchanges within that relationship. The norm of reciprocity dictates some degree of balance in exchanges in the context of ongoing relationships. In other words, all parties concerned should profit from exchanges (White & Klein, 2002). Of course, how

these equations are calculated and balanced varies from person to person, across relationships, and over time. It is possible, for example, that exchanges are considered satisfactory, but unfair. Parents may be content with a lack of equity or reciprocity in their relationships with their young children because they expect that years into the future their children will support them financially, instrumentally, or emotionally. It is also possible that exchanges are deemed to be fair, but unsatisfactory. Satisfaction is determined not only by outcomes of exchanges, but also by the processes by which the outcomes are achieved (Molm, 1991). For example, suppose the outcome of an exchange is that parents provide child care for their grandchildren and allow their adult daughter to use a vehicle they generally do not use. One way to arrive at this scenario is for the adult daughter to inform her parents that she needs them to watch her children every day from 8:00 a.m. until 5:30 p.m., starting the following day. She may simply help herself to keys for the “extra” car, assuming her parents will not need it. Another process might involve the adult daughter sitting down with her parents, perhaps more than one day in advance, informing them of her needs for child care and transportation, and then asking them if they are able to assist her, and if so, what specifically they can offer. Again, the outcomes of both scenarios consist of identical combinations of costs and rewards for all parties, but the latter process may be more satisfying for all concerned.

When exchanges are not satisfying or rewarding, what accounts for parties’ continued involvement in the exchanges? Many situations exist in which one party does not have the ability to reciprocate. Often these exchanges occur

in the context of relationships in which participants do not wield equal power. A power-dependence dynamic may then come into play.

Dependence and power.

Two basic tenets regarding exchange dynamics are (a) that dependence and power are inversely related and (b) that resources and power are directly and linearly related. According to Thibaut and Kelley (1959), people are dependent in a relationship when they believe they must rely on the other to achieve a given outcome. The more implausible an outcome outside of the current relationship seems, the more dependent that person is on the current relationship. If a low-income, nonpartnered mother living in a rural community believes she would be unable to maintain employment without her mother's willingness to provide child care free of charge and her father's willingness to provide transportation to and from work, then she is dependent on her parents. Dependence is further fostered by internal and external barriers. Examples of internal barriers are sense of obligation or indebtedness, and the belief that it is the responsibility of parents to support their children by whatever means possible regardless of the children's ages. Perhaps this same poor, nonpartnered mother continues to live in her rural community because her parents have been a great help to her and she feels an obligation to stay geographically close to them as they age. In the long term, she may be able to reciprocate. Conversely, this mother may not be distressed by her dependence on her parents because she believes they continue to be responsible for caring for her. Examples of external barriers are legal pressures (e.g., being on probation, child custody

arrangements) and economic conditions (Sabatelli, 1999). If the same hypothetical nonpartnered mother believes the cost of living in a more urban setting would effectively erase any increase in her income, she may opt to stay in the rural community where she knows she can depend on a group of people. Further, she knows who is trustworthy in her present community and may not know this about potentially helpful people or organizations in an unfamiliar, urban setting.

Those who are power disadvantaged may be able to reach a level of satisfaction in their exchanges by comparing current exchanges and their outcomes to past experiences and to their perceptions of social norms (CL) (Thibaut & Kelly, 1959). If the nonpartnered mother has peers in similar circumstances, she may see reliance on her parents as a social norm and she may be better able to justify her dependence on her parents. It may be easy for a child, even an adult child, to rely heavily on parents because such dependence is historically the dynamic in such relationships. The adult daughter may not even consider what outcomes could be achieved through different relationships or exchanges because she is so accustomed to the current exchange dynamic.

Those who reap significant rewards or experience high levels of satisfaction with a relationship may tolerate dependence better than those who find the relationship to be unrewarding or unsatisfactory. Continuing with our hypothetical scenario, the nonpartnered mother reaps significant rewards by remaining dependent in her relationship with her parents. Her parents' willingness to provide the resource of cost-free child care in combination with her

father's willingness to regularly provide transportation allow the adult daughter to preserve some sense of independence by maintaining employment. Maintaining employment may allow her to hold out hope that one day she will become more self-sufficient and will be able to repay her parents' generosity. She presumably believes that her children are being well cared for. Her mother may have more flexibility in the hours she is available to provide child care than would a child care center or an unrelated in-home child care provider. Of particular importance in rural communities, the nonpartnered mother is avoiding the stigma attached to seeking government financial support, such as subsidies to pay for child care or gas money for transportation. Given these rewards, it makes sense that this nonpartnered mother would be willing to accept her dependent status in her exchanges with her parents.

In her 2000 study, Nelson addressed how poor, single mothers negotiate the social exchange concept of reciprocity with those in their support network. Those she interviewed expressed a strong, albeit theoretical, commitment to maintaining reciprocity and a desire to see themselves as independent and self-sufficient. Nelson incorporated an ecological model when she identified three circles of support and the different definitions of reciprocity applied to each one. When women in her study perceived a support person as being in similar circumstances, they were especially intent on making "exchanges of equivalent material goods and services" (p. 298). With respect to support people whom participants deemed, accurately or inaccurately, to be better off than they, the women in Nelson's study generated justifications for making nonequivalent

returns. They either came to view the exchange as involving intangible goods, or they accepted the other's gesture as a gift, the giving of which was its own reward (p. 298). Finally, in exchanges involving those with whom they had no "friendship or kinship ties," the women in Nelson's study dispensed with the idea of reciprocity entirely, claiming, for example, that everyone was expected to offer "spontaneous gestures of pure generosity" at some points in time (p. 298). Of importance to Nelson's (2000) work is the finding that maintaining these relationships can be very challenging. The poor women in Nelson's study were forced to manage their shame and humiliation to request and accept support. They used the strategies discussed above to tolerate the "sustained dependence" that occurred when they were unable to repay significant gifts (p. 313).

It may be more challenging for those wielding power to remain in imbalanced exchange relationships. Presumably, more powerful people possess a greater supply of desirable resources to offer and are less likely to be the beneficiaries of reciprocity. Molm (1991) found that those with more power tended to decrease reciprocity and increase nonreciprocal strategies to cope with the imbalance of power. Instead of adhering to strategies that perpetuate a norm of reciprocity, in its absence, they may withhold rewards to encourage greater giving by the other party. The power-advantaged party also may use punishment as a way to sanction the insufficiencies in the other party's exchange. Applying the principle of CL_{alt}, one could conclude that those with more power may be swayed by comparing the rewards of the current exchanges with rewards they

believe they could obtain in other exchanges (Thibaut & Kelly, 1959). The tendency on the part of the powerful party to withdraw from the exchange through diminished reciprocity or through establishing or cultivating other relationships or exchanges could conceivably jeopardize an imbalanced relationship.

Returning one last time to our hypothetical extended family, we may need to exert greater effort to explain the parents' continued involvement with their struggling adult daughter. There are some believable reasons as to why they maintain their relationship with their adult daughter, despite its inequitable nature. Just as it may be relatively easy for the adult daughter to rely heavily on her parents because such dependence is a relatively accepted cultural norm, it may be very difficult for parents to cede power in relationships with their adult children. An internal barrier that prevents them from abandoning the exchange may be that their sense of obligation and responsibility to their children has not lessened over time. Perhaps they hold to a conviction that it is always the parents' job to support their children in a variety of ways, regardless of their children's or their own ages. Another possibility might be that parents harbor guilt over their own parenting practices, whether it be related to general parenting skills, physical or sexual abuse that occurred, their own substance use, or bringing multiple partners into the household. An external barrier keeping them in the imbalanced relationship with their daughter is that in a rural community, where families often are perceived as supportive and close-knit, they may fear being judged harshly were they to "abandon" their daughter and their

grandchildren. They may also feel strongly that they are responsible for their grandchildren. When making CL_{alt} comparisons, the parents may remain engaged in the exchange with their daughter because they want to be important in the lives of their children and grandchildren. If, for example, they are retired and no longer engaged in daily exchanges with coworkers, exchanges with family members may take on greater significance. These explanations assume an inherent reward to maintaining power, or put more benevolently, to maintaining an altruistic stance. Noting that social exchange theory has some difficulty explaining why people stay in power dependence relationships, it makes sense to turn our attention to criticisms of social exchange theory.

Criticisms of social exchange theory.

Critics of social exchange theory contend that it is too simplistic. The minimalism of the theory is attacked on three fronts: (a) its basis in economic theory; (b) its dichotomous nature, in the theory's strictest form, allowing for only one causal explanation of exchanges; and (c) its examination of the individual as the appropriate unit of analysis.

Originally, social exchange theory held to the tenet of economic theory that people are perfectly rational beings (Zafirovski, 2003). Critics contend that such restrictive concepts fail to take noneconomic factors into account. In purely economic exchanges, obligations are clear and specific, often involve a single exchange, and require only a modicum of trust and commitment. In social exchanges, however, obligations are often vague, entail repeated exchanges over long periods of time, and require fairly high levels of trust (Zafirovski, 2003).

Classic social exchange theory is also criticized because of its claim that people invariably make choices to obtain maximum gain (Zafirovski, 2003). Such a stance allows for only one causal explanation of exchanges: obtaining maximum gain. Critics contend that a theory presenting only one motivation for decision making inadequately explains the multiple factors influencing human behavior and relationships (Zafirovski, 2003).

Finally, in traditional social exchange theory, the individual is considered the proper unit of analysis. This concept, combined with the idea that individuals are purely rational beings who make decisions only on the basis of what will allow them to achieve maximum gain, leads one to conclude that individuals are interchangeable: Any person, given a particular combination of resources, costs, and rewards, would reach the same decision as any other person. The theory ignores the fact that individuals exist in context (Zafirovski, 2003).

More recent theorists have adapted the strict form of social exchange by acknowledging that social exchange and economic exchange differ, that people are not purely rational beings, and that context and interaction are integral to determining costs, benefits, and rewards (Blau, 1994; Lawler, 2001; Molm, 1991). Even Thibaut and Kelly (1959) seemed to recognize that economic exchange theory could not be transferred unchanged and intact, and subsequently applied to people in the context of social exchange theory.

Lawler (2001) proposed the *affect theory of social exchange*, in which exchange structures and processes produce emotions. Such a theoretical approach is highly relevant to this study of informal support and attrition. It can

help us understand “how and when social exchanges promote or inhibit solidarity in relations or groups” (p. 322). In other words, it may provide additional perspective to better understand why a poor, nonpartnered mother living in a rural community remains in the community and why her parents (or other family members and friends) maintain relationships with her even in the absence of reciprocity and equity.

Affect Theory of Social Exchange

Affect theory of social exchange enlarges on exchange theory in two ways. First, it contends that rewards and punishments have emotional effects on the parties concerned. These emotional effects vary in magnitude and direction, meaning emotions may be positive or negative and may be mild or pronounced. Second, the theory states that in social exchanges, “the nature and degree of jointness varies” (Lawler, 2001, p. 322). The closer the relationships among actors, the more relevant the relational or group context is to actors’ feelings and thoughts. If social units can work together for a common goal, actors are more likely to attribute their emotions to the social unit. Lawler contends that experiencing positive emotions as the result of an exchange increases solidarity among the parties concerned, whereas negative emotions decrease solidarity. Solidarity is defined as “the strength and durability of person-to-group and person-to-person relations” (p. 329). In the hypothetical scenario to which I have previously referred, the nonpartnered mother and her parents experience emotions generated by rewards and punishments. The closeness of their relationships over time and the desire to maintain that closeness likely influence

their exchanges. If all parties can maintain positive emotions, they are more likely to maintain or even improve the strength and durability of the relationship. In a sense, a positive feedback loop is created. If all see their efforts as working toward the common goal of offering the best life possible for the grandchildren, they may be more likely to attribute positive affect to the social unit, thereby more firmly solidifying it.

Beyond interpersonal relationships, I suggest that the participant's decision whether to remain in a geographical area can be explained using the affect theory of social exchange. If people believe the rewards they get from remaining in their small town outweigh the costs (CL), or if the rewards they get outweigh the rewards they would receive by moving away (CL_{alt}), they will choose to stay. Social exchange offers rewards and costs that may either compel a single mother to stay in a small town, or may encourage her to go. Using affect theory terminology, one can say that the magnitude and direction of emotions in response to costs and rewards associated with rural living will serve either to solidify or weaken relationships with family members and friends, thereby increasing or decreasing the likelihood of remaining in the community. Costs and rewards associated with rural living may be closely related to informal social support received by poor, nonpartnered mothers in these communities.

Informal Social Support and Poor Rural Women

Social support is sometimes defined as the perception and receipt of assistance in the context of social relationships (Sanderson, 2004). Sources of support may be formal or informal. Professionals and organizations render formal

support, whereas neighbors, friends, family members, and sometimes strangers render informal support (Simmons, Braun, Wright, & Miller, 2007). Types of support especially relevant to the current study are emotional and tangible support (Laakso & Paunonen-Illmonen, 2002; Pierce, Sarason, Sarason, Joseph, & Henderson, 1996; Simmons, Braun, Wright, & Miller, 2007). Emotional support consists of "trust, listening and reassurance" (Simmons, Braun, Wright, & Miller, 2007, p. 639). Tangible support includes the "provision of goods and services" (Simmons, Braun, Wright, & Miller, 2007, p. 639).

The giving and receipt of informal social support illustrates the enactment of social exchange theory in daily life. When a friend takes your child to school on Mondays and Wednesdays and you take her children to school on Tuesdays and Thursdays, you are exchanging services. Reciprocity occurs promptly and consistently. The friends move frequently back and forth between the roles of giver and receiver. If your neighbor brings you a casserole after you have had surgery, you are involved in a social exchange in which immediate reciprocity is not expected. Your neighbor does not expect you to swap roles immediately, but he may hope that in the future you are willing to step into the role of giver in the event that he needs to be on the receiving end of informal social support.

It has often been assumed that being part of a social support network is purely advantageous to members of the network; membership bears no costs (Belle, 1982). People who are part of a social support network are thought to receive more emotional and instrumental support than people who are not part of such a network (Belle, 1982). A frequently identified benefit of being connected

with a social support network is protection against depression. Depression was shown to be minimized for women experiencing difficult situations when they reported having someone in whom they could confide – or emotional support (Belle, 1982). Women who had minimal residential mobility, lived in close proximity to “really good friends,” and were involved with service organizations also were less likely to report depression (Belle, 1982, p. 133). It also has been shown that the perceived presence of social support for both male and female IV drug users mediates depression (Risser, Cates, Rehman, & Risser, 2010).

Some research calls into question the assumption that belonging to a social support network offers exclusively positive effects. For example, in one study, neither community interaction nor participation was related to enhanced mental health (Andrews, Tennant, Hewson, & Vaillant, 1978). Furthermore, domestic violence was more commonly reported among couples who lived in geographic proximity to relatives (Straus, 1980). And “extensive social ties” were actually related to “psychological distress” among some groups of middle-aged, European women (Cohler & Lieberman, 1981 as cited by Belle, 1982, p. 134). These findings suggest that social support may not be purely positive, but may come with significant costs.

Studies have demonstrated the positive effects of social support on a range of variables among economically stressed populations. Depression and other negative mental health effects of economic stress have been shown to be mitigated by support received from family members and friends (including nonresidential fathers), and by the perception of having high social support

(Ennis, Hobfoll, & Schroder, 2000; Islam, 2004; Jackson,1999; Lincoln-Smith,1998). Furthermore, higher levels of mastery and lower levels of stress were found among women who believed they had access to tangible support and who felt a sense of belonging (Green & Rodgers, 2001).

An in-depth study of 43 poor mothers living in an urban area in the 1970s revealed important and conflicting information about social support (such as emergency child care and having a confidant) and participants' mental health (Belle, 1982). The benefits of involvement with a social support network were evident. More frequent contact with support network members was associated with greater availability of emergency child care and a greater likelihood that participants had a confidant (Belle, 1982). Women with more network members within walking distance of their homes reported more assistance with daily tasks, and the more often participants saw members of their network, the more likely they were to have access to both emergency and nonemergency child care (Belle, 1982). The ability to secure emergency child care was most consistently related to positive mental health (Belle, 1982). All forms of social support consistently enhanced mastery (Belle, 1982).

Despite the presence of meaningful benefits received through their membership in social support networks, the costs of social support network membership also became apparent. Women became troubled when people in their support network betrayed them, abandoned them, or suffered illnesses or other problems (Belle, 1982). Women with husbands or boyfriends reported that they felt uncomfortable confiding in these men about struggles or setbacks,

although they were able to share positive experiences. The harshest drawbacks of having husbands or boyfriends in their social support networks were experiencing domestic violence and feeling let down by these men when they failed to help during times of crisis (Belle, 1982; Meadows, 2009). Overall, women with larger social support networks located in closer proximity and with whom they had more frequent interaction actually experienced more elevated levels of stress related to network members. These women's mental health scores were comparable to the scores of women who were not as extensively involved with social support networks (Belle, 1982). Wethington (2000) describes "the contagion of stress" (p. 229). Although she applies the concept at three different levels, the level relevant to this study is that of "crossover" (p. 233), which occurs across people and often within families.

Aside from interpersonal relationships, information on women's perceptions of their neighborhoods was also obtained. Women tended to identify their neighborhoods as *not so good* to *good*, and rarely identified them as *very good* (Belle, 1982, p. 139). Unlike findings in other research, despite the fact that the median length of residence was four years, longer tenure in their neighborhoods was not correlated with more favorable opinions of their neighborhoods (Belle, 1982). Their current neighborhoods had not drawn them in because of their advantages. The original motivation for relocating to their current neighborhoods stemmed primarily from a desire to escape more expensive, less appealing circumstances (Belle, 1982). Together with other findings, this study demonstrates that informal social support for poor women in urban settings

comes with both costs and benefits. Research shows that informal social support is important to poor, single mothers in rural areas as well.

A few studies have looked specifically at social support in the rural context. Many benefits of informal social support have been identified through these studies. Proximity to extended family members was found to be a key source of social support and stability for rural families who often felt geographically isolated from neighbors and from formal services (Cochran et al., 2002; Struthers & Bokemeier, 2000). Because formal social support is less available in rural communities, and because of the stigma connected with accessing at least some forms of formal social support, sources of informal social support are of utmost importance to low-income, nonpartnered mothers living in these communities. When family members and friends provide child care, provide transportation, give financial support, and offer coresidence to poor, nonpartnered mothers, these mothers are better able to maintain employment or further their education, and often experience fewer or less severe negative mental health effects associated with economic stress. Maintaining these relationships, thereby ensuring access to the resources the relationships offer, is vital to poor, nonpartnered mothers in rural settings.

For poor women, the irony of being part of an informal social support network is that membership can be absolutely essential and simultaneously limiting. Because of their precarious financial circumstances, poor women must rely on friends and family members to provide certain types of support, such as child care, financial assistance, and transportation. Poor women cannot buy relief

from the costs associated with "enforced dependence" (Belle, 1982, p. 143). The fact that poor women are poor limits their freedom to choose what relationships they will enter, leave, or maintain (Belle, 1982). Although women do benefit, they also pay a price. Poor women "cannot receive support without also risking the costs of rejections, betrayal, burdensome dependence, and vicarious pain" (Belle, 1982, p. 143). In the following sections, I review in more detail the costs and benefits of specific types of informal social support: (a) coresidence, (b) the provision of child care, and (c) transportation.

Coresidence: Living as subfamilies.

An especially intensive type of informal social support, living as subfamilies, occurs when single mothers and their children take up residence with other adults, most commonly in the home of the mother's parents (Snyder & McLaughlin, 2004). Living as a subfamily does improve the financial status of single mothers' families, twice as many of which would have lived in poverty had they been required to establish independent households. Children living with a single mother *and* a grandparent were less likely to live near or below the poverty line than children living with a single mother and no grandparent (Mutchler & Baker, 2009). Grandparents are, in some circumstances, able to contribute economically to the household through a variety of channels, including wages and Social Security benefits (Mutchler & Baker, 2009). In cases where a member of the extended family owns the dwelling in which the nonpartnered mother and her children coreside, the owner may opt not to charge the relative any rent, thereby further reducing her expenses.

Although living as subfamilies is beneficial for these families, such living arrangements also may jeopardize their eligibility for various government-based programs such as Temporary Assistance to Needy Families (cash welfare) and Food Stamps. The tradeoff illustrates the preference on the part of some to preserve their social standing by not accessing government-based programs. Coresidence may have other challenges as well, such as differences between generations in daily routines and parenting styles.

Child care.

One area in which poor, rural, nonpartnered mothers are most likely to obtain informal, tangible support is child care. For example, welfare recipients in Northern California were more likely to use in-home care providers as opposed to child care centers, in part because transportation, accessibility, and availability limited welfare recipients' choices of child care options (De Marco, 2008). Another study of low-income, rurally located mothers who worked part-time showed they tended to use informal child care for children younger than school age and as work hours increased (Walker & Reschke, 2004). Informal child care may be more available to poor rural than urban mothers because of the opportunity to pay in kind through the exchange of services or other resources (Walker & Reschke, 2004).

Research using Rural Families Speak data has found that social support networks helped mothers find and maintain child care and transportation and were instrumental in helping teen mothers continue their education (Katras, Zuiker, & Bauer, 2004; Rudd, 2003; Walker & Reschke, 2004). Rural Families

Speak data have been examined to identify the benefits and costs of using maternal grandmothers as child care providers (Reschke, Manoogian, Richards, Walker, & Seiling, 2006). The benefits related to child care arrangements were "flexibility, cost, convenience . . . and family ties" (p. 163). Characteristic of generalized exchanges that take place over extended periods of time, child care by a grandmother entails trust, familiarity, and acceptance. There were costs, however, including increased tension in the adult daughter-older mother relationship because of disagreement about parenting strategies or because of what adult daughters perceived as overbearing parenting on the part of their mothers. This research illustrates that though nonpartnered mothers reap rewards in their exchanges with extended family members, they also incur costs in those exchanges.

Transportation.

Another area in which poor, rural, nonpartnered mothers are likely to require informal, tangible support is transportation. Public transportation in rural areas is all but nonexistent. According to 2000 U.S. census data, very few (.4%) rural residents reported using public transportation (Nitschke, 2004). Nonetheless, rural commuters often did not use their own transportation. Fully 30% of rural commutes took place in borrowed vehicles (Economic Research Service, 1996). If a woman borrows a vehicle to get to work because she does not own a vehicle, she is, of course, incapable of reciprocating by letting someone else borrow her vehicle. She also runs the risk of the vehicle sustaining damage if she is involved in an accident. Such an event could taint the

relationship with the person who loaned the vehicle, and would likely result in lost access to the vehicle either because of damage to the vehicle itself or because of damage to the level of trust in the relationship. Conversely, if she needs transportation to work and does not borrow a vehicle, she risks losing whatever degree of economic self-sufficiency she is able to establish through employment.

Morrison (2004) created a model to explain persistent rural poverty using the concept of “economic distance…the frictions of overcoming distance” (Morrison, 1004, p. 19). Although Morrison did not explicitly identify them, her model utilized concepts of exchange theory by considering the financial and emotional costs associated with moving from or commuting from rural areas to places that offer more employment and education. Her model suggested that costs associated with transportation determine an individual’s willingness to relocate or commute. Though it is highly unlikely that the rural poor implement such a formulaic method by which to decide whether to commute, they may well find their own ways to consider some of the factors Morrison identified as “travel costs, travel time costs, and disruption of personal linkages” (Morrison, 2004, p. 24 – 25). For instance, the farther away one lives from potential worksites, the more money the round trip will cost (gas, maintenance, insurance). Longer commutes also generate time costs. The longer the commute, the more time one spends on the road and away from home. Length of commute may be of particular concern to nonpartnered mothers whose children must be cared for not only during work hours, but also during commute time. Finally, with respect to the effect lengthy commutes might have on interpersonal connections, nonpartnered

mothers may fear compromising their ability to access support if the time they spend traveling to and from work makes them less available to reciprocate.

With the concepts of social exchange in mind, we can turn to the issue of attrition. Just as people choose to remain in relationships, living arrangements, or specific jobs, some study participants may explicitly choose to remain in a longitudinal study. Others may explicitly choose to withdraw from involvement. It is also reasonable to assume that attrition may be explained by other daily decisions and exchanges. Poor nonpartnered mothers for whom the rewards of staying in relationships and maintaining exchanges (both restricted and generalized) outweigh the costs may be more likely to continue their involvement in multiple waves of a longitudinal study than are those for whom the converse is true. In the subsequent section, I provide an overview of the issue of attrition in longitudinal research.

Longitudinal Research and Attrition

Longitudinal research has several strengths. It is useful in measuring change over time, in establishing sequences of relationships among variables, and in providing solid grounds for making causal arguments (Ribisl, Walton, Mowbray, Luke, Davidson, II, & Bootsmiller, 1996). Longitudinal research also has one potentially significant drawback: attrition. Attrition in longitudinal research occurs when participants are lost from the study, permanently or temporarily, after at least one wave of data collection.

Attrition is a serious problem in longitudinal research (Barry, 2005; Dennis & Li, 2003). In quantitative terms, not only does attrition decrease sample size,

thereby reducing the power of the findings, it also threatens both internal and external validity (Ahern & Le Brocque, 2005; Barry, 2005; Dennis & Li, 2003). Internal validity is threatened because it can become impossible for researchers to determine whether between-group differences can be attributed to an event or intervention or whether they are the result of attrition. External validity is threatened if dropouts have unique characteristics. So, the remaining sample ceases to be representative of the original sample. Thus, if I have an original sample that accurately reflects the population in terms of income at Wave 1, and I lose one third of my sample by Wave 2, I need to know who was lost to determine whether the sample still accurately reflects the population's income distribution. For example, if all the participants lost to attrition had significantly lower incomes than those who remained in the study, my sample would no longer be representative of the population and I would be unable to generalize my findings to lower income segments of that population.

In qualitative terms, attrition can affect the trustworthiness of a study (Bloomberg & Volpe, 2008; Rudenstam & Newton, 2001). Analogous to compromising the power of a quantitative study, there must be an adequate number of participants in a qualitative study to reach saturation, the point at which no new information is gleaned from the data (Rudenstam & Newton, 2001). It should be noted that the number of participants is not the only way saturation can be compromised. If drop outs consist predominantly of people whose qualitative data were particularly rich, saturation may still be reached among the remaining participants, but the saturation may include fewer themes

or patterns (Morse, 1995). If those who drop out of the study have commonalities in their stories that stayers do not have, the researcher not only fails to reach saturation, but may fail to obtain an important perspective shared by the study's drop outs. With high rates of attrition, the qualitative sample may no longer reflect the unique constellation of factors the researcher originally intended to study. Such a change to the study's context, especially if it is not acknowledged and addressed, could compromise other researchers' ability to determine whether the study would be well matched to their own settings (Bloomberg & Volpe, 2008).

Finally, attrition has implications for determining whether programs are effective. Longitudinal studies are typically cost intensive. Although not an intervention, findings from the present study could prove instrumental to the design and implementation of programs targeting Rural Families Speak populations. The ability to draw a conclusion regarding program effectiveness or even to identify needs via a needs assessment is potentially compromised because of attrition. In one study (Morse & Durkin, 2004), midwives interviewed pregnant women checking in for prenatal care. Women were questioned about demographic characteristics, mental health status history, and abusive relationship history. Upon completion of the first interview, women were offered a choice to continue in a longitudinal study that would require participation through 6 weeks after the baby's birth. Fully 35% of women declined to continue with the study. Researchers compared first interview responses of those who agreed to stay in the longitudinal study and those who declined involvement. Based on their findings, researchers concluded that withdrawers were "more needy and troubled

women" who "most deserv[ed] professional attention and assistance" (p. 293). If services were provided or modified based only on information provided by those women who stayed in this longitudinal study, the services may prove severely limited or misguided when applied to the broader population of women seeking services through the facility.

Attrition can occur through several paths. At its most basic level, it occurs because of participant death. Death is especially common in the study of aged or infirm populations. Attrition also occurs when respondents refuse to continue their involvement with a study or when researchers are unable to contact respondents after the first wave of data collection. Two studies found that approximately 45% of attrition occurred because participants could not be contacted after the first wave of data collection (Bates, 2004; Rogers, Fernandez, Thurber, & Smitley, 2004).

Attrition is often ignored in longitudinal research. For example, Barry (2005) evaluated 60 articles from four journals prominent in the health education and health promotion fields to determine how attrition had been addressed. He found that only 38 of these studies, or 63%, indicated sample size at each collection point. Just over half of the articles reported attrition rates. Fewer than 36% of the articles reported reasons for attrition, with the same percentage statistically analyzing whether attrition biased the studies' results. Only 41% percent of the articles acknowledged attrition effects. Attrition rates for a large panel study, the Survey of Income and Program Participation (SIPP), ranged anywhere from 23 – 30% (Bates, 2004). Though it is difficult to identify a typical

attrition rate for longitudinal studies, it is clear that attrition can compromise the usefulness of findings from longitudinal studies and that it should be minimized.

To minimize loss of contact and refusal to participate, it is useful to know participant characteristics that might predict attrition. Attriters in a variety of studies share some characteristics, most of which are demographic in nature. Several studies of varied populations indicate that those of lower socioeconomic standing are more likely, and those of higher socioeconomic standing less likely, to be attriters (Cotter et al., 2005; Morse & Durkin, 2004; Young, Powers, & Bell, 2006). Similarly, those with higher levels of educational attainment are more likely than those with less education to continue in longitudinal studies (Cotter et al., 2005; Morse & Durkin, 2004; Siddiqui, Ohidul, Flay, & Hu, 1996). Finally, at least one study (Cotter et al., 2005) found that living in a rural environment predicted attrition through refusal to continue. These findings all underscore the point that attriters are perhaps those whose difficulties remain unidentified and unaddressed (Morse & Durkin, 2004), and that attriters, relative to those who continue to participate, may be in greater need of formal and informal social support.

In the present study, affect theory provides the framework within which the influence of informal social support on attrition is examined. The participants in this study, low-income and poor nonpartnered mothers residing in rural areas, rely on past experiences and relationships, their perceptions of social norms, and the potential rewards available in alternative situations to negotiate daily exchanges of informal social support. They must often tolerate relationships in

which exchanges occur within a power-dependence imbalance. They must creatively manage exchanges in which they are unable to adhere to a norm of reciprocity, finding ways to tolerate or justify the imbalance that often exists in their relationships with those providing informal social support. Similarly, these women make choices that either directly or indirectly affect their willingness or ability to remain involved in relationships or activities, including longitudinal research projects.

In this study, I examined the association between the reported experience of informal social support and attrition through loss of contact. I went beyond the use of demographic data and used qualitative methods to identify relationships between participants' reported informal support and their attrition from a longitudinal study. The aim of the study was to answer the question: What reported experiences of informal social support at Wave 1 are associated with attrition of poor, rural, nonpartnered mothers?

I anticipated that participants who remained in the study for all three waves would report, at Wave 1, (a) a greater number of family members or friends living in close geographic proximity, and (b) more positive descriptions of their family members or friends and the quality of their relationships with family members or friends. My work experiences have prepared me to engage in this particular research project. I have a unique perspective on a population similar to the sample of Rural Families Speak. Based on my familiarity with poor, rural families, I may have insights others would not have.

Chapter 3: Method

Rural Families Speak Project

The data used for this study are from the Rural Families Speak project conducted between 1998 and 2003. The initial purpose of the study was to examine the effects of the 1996 welfare reform legislation on low-income, rural families. Baseline and at least one additional wave of data were collected in 13 states (California, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New York, Ohio, and Oregon). Within each state, the project was located at self-selected land grant universities or at Cooperative Extension Centers approved by Experiment Station Directors to study rural, low-income families. Eighty percent of the counties from which the Rural Families Speak participants were selected were nonmetropolitan counties with urban populations of 2,500 to 19,000, or towns of no more than 2,500 people. In general, each state recruited participants who were representative of the racial and ethnic diversity of that state's rural, low-income population. Three states, however, oversampled Latinas: California, Michigan, and Oregon.

Eligibility.

Respondents were low-income rural mothers. To be eligible for the Rural Families Speak study, mothers had to be at least 18 years of age, have at least one child under the age of 13 living at home, and have a household income under 200% of the poverty line at the time of initial recruitment. When the Rural Families Speak study was designed, shortly after the passage of federal welfare reform legislation, the Rural Families Speak team used the same income criterion as the Urban Institute's New Federalism study (200% of the poverty line)

so as to compare their study of poor rural families with studies of poor urban families (Bauer, 2004; Liebovitz & Wherry, 2004).

Table 1
*Demographic Data of Original Rural Families Speak (RFS) Participants at Wave 1 (*N *= 397) and Present Study Participants (Nonpartnered Mothers) at Wave 1 (*N *= 45)*

	Original Sample *N* = 397	Present Sample *n* = 45	Attriters *n* = 15	Continuer-movers *n* = 15	Continuer-nonmovers *n* = 15
Average age (years)	29	31	27	32	36
Educational attainment (%)					
8th grade or less	10	0	0	0	0
Some high school	21	22	53	13	0
High school or GED	28	24	7	47	20
Business or technical training	13	18	13	13	27
Some college, including A.A.	23	31	27	20	47
College or university graduate	3	5	0	7	7
Beyond college or graduate degree	1	0	0	0	0
Partnership status (%)					
Married	45	0	0	0	0
Cohabiting	15	0	0	0	0
Single	25	64	73	47	73
Divorced	9	20	0	40	20
Separated	7	16	27	13	7
Widowed	0	0	0	0	0
Racial/ethnic status (%)					
White/Non-Hispanic	65	69	47	73	87
Hispanic/Latina	22	0	0	0	0
African American	9	29	53	20	13
Asian, multiracial, or other	4	2	0	7	0
Income < 200% of 2000 poverty level (%)	100	100	100	100	100
N of children (%)					
1 – 3	82	91	93	94	87
4 – 6	17	9	7	7	13
> 6	1	0	0	0	0

Recruitment.

It was especially important at the outset of the study for researchers to identify participants open to researcher involvement in their lives. In an effort to

maximize their efforts, researchers began by connecting with programs already serving low-income rural families. Potential participants were also recruited using fliers posted in the communities, and through snowball sampling (referral by other study participants).

Sample.

Demographic characteristics of the original Rural Families Speak sample, the overall sample for this study, and each subsample for this study are summarized in Table 1. The original sample consisted of 397 participants (N = 397). The mean age of participants in the original sample was 29 years, and mothers' average age in the present study was 31 years. Just over 40% of participants in the original Rural Families Speak study and 54% of participants in the current study reported educational attainment beyond high school. Sixty-five percent of the original Rural Families Speak sample was White/non-Hispanic and 69% of this study's sample identified as White-non-Hispanic. Ninety-five percent of women in the original study and 98% of women in the present study reported four or fewer children. Head of household mothers without a spouse or significant other living in the home are especially likely to have low incomes and longitudinal study participants with low incomes are at greater risk for attriting than their higher income counterparts (Cotter et al., 2005; Morse & Durkin, 2004; Young, Powers, & Bell, 2006). Because the original Rural Families Speak sample differed somewhat, racially and ethnically from poor rural families at the national level, caution should be exercised when applying findings to the national population of rural poor. The Rural Families Speak study included more Latino

families, fewer non-Hispanic Whites, and fewer African American families than the national population of the rural poor. The Rural Families Speak sample of rural poor African American families in the south did mirror proportions found in the 2000 census.

Data Collection and Analysis.

Researchers collected data annually between 2000 and 2003, using semistructured interviews. Both qualitative and quantitative data were collected. All interviews were recorded and transcribed verbatim. All participants and family members were given pseudonyms to protect their confidentiality. Communities were also given pseudonyms.

Data entry and preliminary coding of qualitative interview data were centralized at one university. Rural Families Speak project staff at Oregon State University coded the interview transcripts using a grounded theory approach (Glaser & Strauss, 1967) and qualitative analysis techniques (Berg, 2003; Strauss & Corbin, 1990). Intercoder reliabilities for initial coding of Wave 1 data for all participants, calculated on approximately 5% of the interviews, ranged from .75 to .93, with an average of .86 (Reschke et al., 2006). Although coders identified numerous themes or categories, consistent with the theoretical perspective, this study focuses on one theme: informal social support.

The attrition rates for the Rural Families Speak study were as follows. At Wave 2, 315 of 397 (79%) women completed the interview; and at Wave 3, 266 (67%) mothers completed the interview (Simmons, Braun, Wright, & Miller, 2007). The attrition rate, approximately 21%, between Wave 1 and Wave 2, was

lower than that of at least one other longitudinal study of low-income families (Smith, Krannich, & Hunts, 2001), perhaps because concerted efforts were made to minimize attrition through loss of contact. Each respondent was asked at Wave 1 to identify and provide contact information for three people who would always know where the respondent was and how to locate her. Additionally, participants who moved and notified study personnel of their move, and provided updated contact information, were given gift certificates.

Table 2

Attrition Rates by State n/N (%)

State	Attrition: Total sample *n*/*N* (%)	Attrition: Nonpartnered Sample *n*/*N* (%)
IN	22/42 (52)	8/14 (57)
KY	7/21 (33)	5/10 (50)
LA	16/27 (59)	14/23 (61)
MD	12/34 (35)	5/14 (36)
MN	5/37 (14)	0/25 (0)
NE	7/20 (35)	3/8 (38)
NH	9/24 (38)	6/15 (40)
OH	3/29 (10)	2/12 (17)
OR	5/31 (16)	1/5 (20)

Table 2 shows the number of participants lost from the original Rural Families Speak study by Wave 3, for the states included in the present study. The two highest attrition rates for the total sample and the nonpartnered sample occurred in Louisiana (59% and 61%) and Indiana (52% and 57%). Minnesota and Ohio had the lowest attrition rates for both the total and the nonpartnered samples, 14% and 0%, and 10% and 17%, respectively.

Methodological issues.

Several methodological issues should be noted with respect to the original Rural Families Speak study. To better understand the methodological shortcomings of the original study, it is useful to understand the context in which the study was undertaken. The study was a multistate Agricultural Experiment Station (AES) project, meaning that all states had the opportunity to join the project at any time, provided they had the backing of their university's AES program. In essence, 14 states embarked on 14 independent projects. Even though all sites agreed to follow the same data collection methods and to use the same protocols, funding did not allow for an overall project Principal Investigator charged with overseeing this part of the process. Most states received very limited funding for data collection, which resulted in variability in research incentives for participants. Later on, USDA funding was obtained. The decision was made to use those federal funds to support centralized data coding and data entry rather than putting them toward state-level data collection. Researchers attempted to collaborate as effectively as possible given the limited resources available (Richards, personal communication, August 31, 2011).

Although previous AES projects had been conducted simultaneously in multiple states, the Rural Families Speak project was the first that attempted to create a standardized protocol. In other projects, researchers had been brought together based on common broad interests, but research was conducted independently with each state using its own methods to delve into specific areas of interest. Rural Families Speak attempted to standardize both protocol and

methodology, initially in the absence of centralized funding and oversight (Richards, 2011).

The first issue relates to qualitative interviewer training. One of the Principal Investigators provided the training via several conference calls. Use of one researcher for this training maximized the likelihood that all researchers and interviewers would receive comparable training. She covered a broad range of vital matters, such as the importance of following guidelines for the responsible conduct of research involving human subjects, using interview strategies that would be most likely to maximize understanding of the participants' circumstances, thoughts, and feelings, and presenting questions and follow-up questions in a neutral manner. The training also encompassed logistical issues such as where to conduct interviews, how to maintain personal safety for the participants and interviewers, and how best to respond to participants' emotional reactions to sensitive topics (Richards, 2011).

The primary drawback with respect to training interviewers was that the actual interviewers had sometimes not been hired as the time the training was offered. All of the Principal Investigators received the training directly. It was not unusual, however, that interviewers hired after the formal training were subsequently trained by either the Principal Investigators or someone else on the local staff. It is possible, then, that not all interviewers received the same level of training as was initially offered, and that the inconsistency in training procedures led to inconsistencies in the interviews and in the data obtained through interviews.

The second methodological issue focuses on incentives provided to participants. Incentives varied from state to state. A variety of incentives were provided, ranging in monetary value from approximately $15 to $50 for the two to three-hour interviews. The form of the incentives also varied; some families received gift cards, others received framed family photos, and still others were given school supplies. Some participants were reimbursed for transportation and parking expenses incurred in order to attend the interviews (Richards, 2011). Incentives could have affected mothers' motivation to participate in subsequent waves of data collection. Participants would likely include such a factor when weighing the costs and benefits of continued involvement in the study.

Third, diligence regarding record keeping varied from state to state. Several pieces of information were not systematically collected. First, information about incentives was not systematically obtained or recorded. Second, information on strategies to maintain contact with participants between waves of data collection was not uniformly collected. Third, not all researchers included detailed information in their records about attempts to follow up with participants beyond Wave 1 of data collection. In some cases, records merely stated that the researcher was unable to contact a participant. In some instances, more detailed information about the number of attempts to contact, the methods of attempts to contact (phone calls, home visits, or other), and reasons for inability to contact was provided (Richards, 2011).

In summary, because of limited funding and the resultant inability to establish centralized oversight of data collection, there was no consistent

protocol for compensation, maintaining ongoing contact with participants, or tracking either of these elements of the research project. It is also unclear how much fidelity to the qualitative interviewer training was maintained when training interviewers who were hired after the initial training was provided. Despite these drawbacks, it is important to note that the Rural Families Speak study broke new ground in that it was a multistate project in which all states collected the same data.

The Present Study

This study sought to explain how informal support might be related to attrition among a subgroup of Rural Families Speak participants, nonpartnered mothers. In this study, data from Wave 1 were analyzed to see if clues to Wave 2 attrition could be seen in the number of family members and friends in close proximity and in the ways in which respondents described their family members and friends and the quality of their relationships with them.

Sample Selection.

Four states that participated in the original Rural Families Speak project were eliminated from consideration for this study. California and Massachusetts were eliminated because neither state adhered to the rurality guidelines in selecting their samples. New York was excluded because they had no attriters from their sample. Michigan was excluded because its sample included a high number of migrant workers who tended to move seasonally. For this study, the randomly selected, nonpartnered mothers were from the following states:

Indiana, Kentucky, Louisiana, Maryland, Minnesota, Nebraska, New Hampshire, Ohio, and Oregon.

I used purposive sampling so as to compare three very specific groups: nonpartnered mothers who could be classified as *attriters*, *continuer-movers*, or *continuer-nonmovers*. Figure 1 illustrates the process by which this study's sample was established. Because I was most interested in studying low-income, nonpartnered mothers who were rurally located, I identified an initial sample for this study that consisted only of women who were nonpartnered at Wave 1, *N* =190. I chose a sample of nonpartnered mothers for two reasons. First, nonpartnered women with children in rural areas consistently have among the highest poverty rates in the U.S. According to the United States Department of Agriculture (USDA, 2004), the poverty rate of female-headed households in rural areas in 2002 was over 37%. As of 2009, the poverty rate for these households had risen to 40.6% (USDA, 2010). Second, in rural areas, nonpartnered mothers headed nearly 73% of households with children (Snyder, McLaughlin, & Findeis, 2000).

Once nonpartnered mothers were identified, three subsamples were selected: (a) *attriters*, consisting of the total number of nonpartnered mothers at Wave 1 who were lost after Wave 1 because of researchers' inability to contact the respondents; (b) *continuer-movers*, consisting of the total number of nonpartnered respondents at Wave 1 who remained in the study through all three waves of data collection despite having moved; and (c) *continuer-nonmovers*, consisting of the total number of nonpartnered respondents at Wave 1 who

remained in the study through all three waves of data collection and who did not move. I excluded California, Massachusetts, Michigan, and New York. Neither California nor Massachusetts adhered to the rurality guidelines set forth for the study. Michigan was excluded because the state's study participants consisted primarily of seasonal, migrant workers who might be more likely to be lost from the study because of the nature of their employment. I did not include New York because there were no *attriters* among their participants. After these three subsamples were selected, 15 cases from each subsample were randomly selected for qualitative analysis.

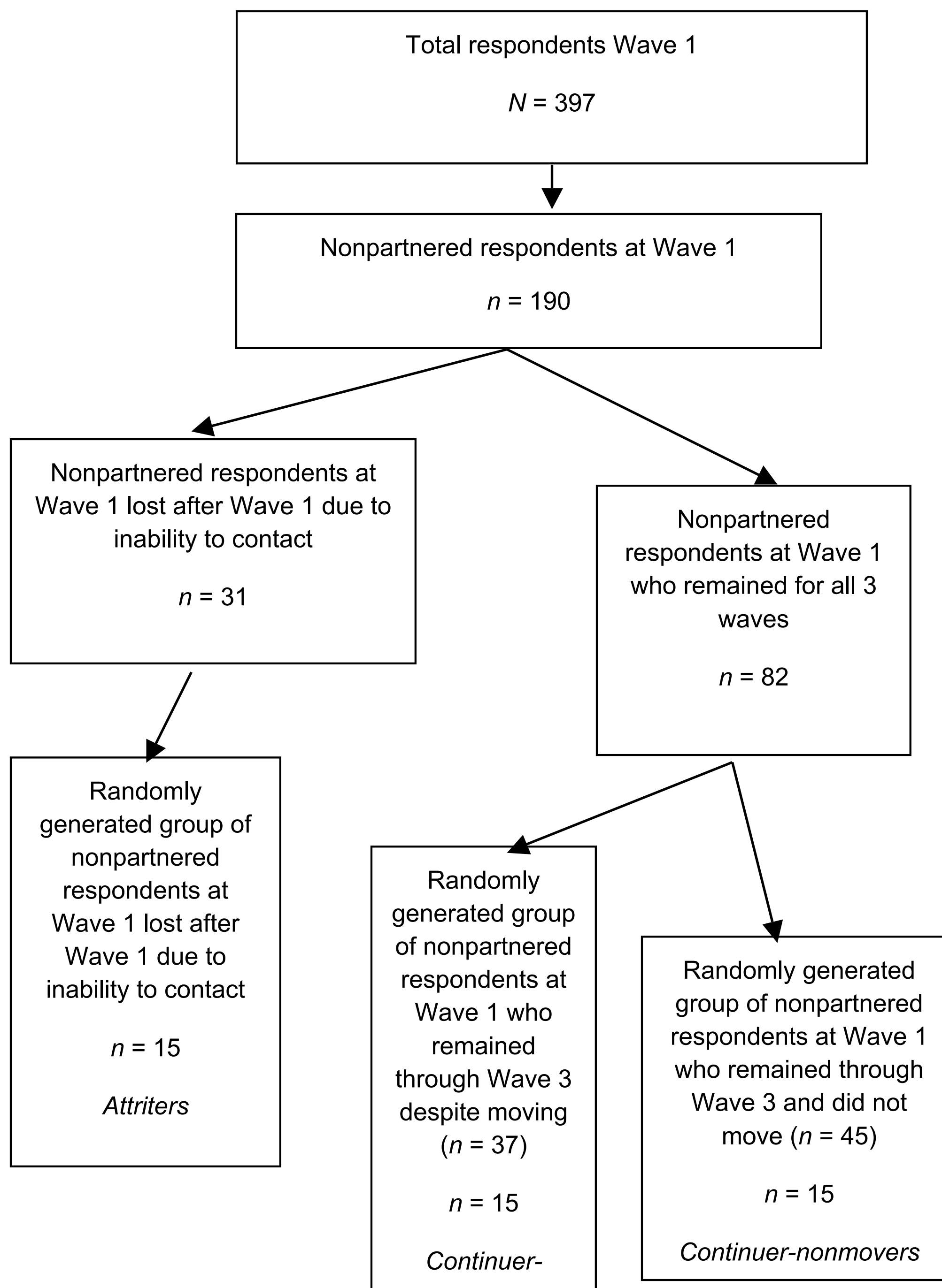
Participants from these three groups were randomly generated to maximize the likelihood that any differences across groups, aside from the status of *attriter*, *continuer-mover*, or *continuer-nonmover*, would occur randomly, avoiding the skewing of any group. Fifteen cases were chosen for each group because it was likely that number of cases would lead to saturation.

In other words, by the time 15 transcripts had been read in each category, data were expected to become redundant in terms of the identification of new themes, indicating that a saturation point had been reached (Charmaz, 2005).

The *continuer-mover* subsample was included for two reasons. First, it allowed the opportunity to analyze a group that was, presumably, similar to *attriters* in that they relocated, and was also similar to *continuer-nonmovers* in that they stayed in contact with researchers (in spite of relocating). Second, it could reveal as yet unidentified differences and similarities in informal social support across *attriters*, *continuer-movers*, and *continuer-nonmovers*. For

example, findings could show that *attriters* received a greater number of types of informal social support than *continuer-movers* or *continuer-nonmovers*. Findings might indicate that both *continuer-movers* and *attriters* had far fewer family members living in close geographic proximity than did *continuer-nonmovers*.

Figure 1: Establishment of Sample for this Study



Qualitative analysis.

I sought to examine reported experiences of informal support. Although the category of informal social support was identified in the original, centralized coding of Rural Families Speak data, for this study, I read the entirety of each of the 45 transcripts to gain an initial sense of the participants' overall circumstances. The overarching question I asked was: Does informal social support give clues about attrition? I made no assumptions about who provided or did not provide support to the participants, the frequency or types of support provided, or whether mothers' overall descriptions of informal social support would be positive or negative. I coded the data without knowing the subsample (*attriters*, *continuer-movers*, or *continuer-nonmovers*) to which each transcript belonged. Coding without such knowledge enabled me to minimize bias that might have been generated by the ability to connect information about informal social support with attrition status. After becoming familiar with the data, I began open coding of all transcripts, following the guidelines suggested by Strauss (1987, as cited in Berg, 2001). In other words, I asked a set of specific and consistent questions of the data.

First, I asked how many extended family members lived in close geographic proximity to each mother. I anticipated that the mere presence of family members in close geographical proximity to participants would distinguish *attriters* from *continuers (movers* and *nonmovers)*. Women with more family members living in close proximity would be the most likely to remain in the study for all three waves of data collection because they either would have more

people tying them to their current communities, or if mothers moved, their extended family members would likely know how to contact them in the future. A greater number of sources of support might equate to receipt of more support, which would in turn benefit the recipients (the mothers in this study) of the support (Emerson, 1976; Thibaut & Kelley, 1959). It would also be possible that mothers with more potential sources of informal social support would be able to spread their requests for help across a greater number of people, thereby minimizing the extent of power imbalances in any given relationship.

Second, I re-read each transcript, taking notes to summarize each mother's circumstances. I noted responses and comments about employment, current living situations, what services mothers had ready access to and what they lacked, what they liked most and least about where they lived, what family members lived close by, who provided informal social support, what types of informal social support mothers received, who were the most important people in their lives, whether they engaged in social activities separately from their children, levels of satisfaction with their current circumstances, and any changes in their economic situations as compared to two years prior to the interviews.

Third, I read each transcript in depth, taking notes and creating tables and figures to assist in identifying patterns related to informal social support. I examined the interview transcripts for information on "conditions…, interaction among actors…, strategies and tactics…, and consequences…" (Strauss, 1987, pp. 27-28), as they related to informal social support. Specifically, I asked the following question: Did mothers talk about family members and their relationships

with family members in a positive or negative light? In other words, how did each mother describe her nearby relatives and the quality of her relationships with those relatives? I linked negative comments with costs of social support and positive comments with benefits of social support.

Fourth, I asked the same questions regarding the number of local friends and boyfriends, mothers' descriptions of their friends, and the quality of their relationships with these friends. I surmised that those with fewer friends living close by would feel less connected to the local community, and therefore would be more likely to move and drop out of the study. I believed that mothers with the most friends nearby would feel more connected and would be most likely to stay in the community and in the study. Even if these mothers moved, they would have more people in their lives who would know how to contact them in the future, making them more likely to be found for future waves of data collection. I asked about mothers' descriptions of their friends and the quality of their relationships with friends (including boyfriends) using the same question I used for descriptions of family members and the quality of their relationships with those family members: Did mothers talk about their friends and the quality of their relationships with friends in a positive or negative light? Once again, I linked negative comments with costs of social support and positive comments with benefits of social support.

Both extended family members and friends can serve as valuable sources of informal social support. In this study, I considered the two groups separately because the emotional charge connected to social exchange with family

members can differ greatly from that connected to exchanges with friends. For example, a woman might be more distraught if her mother declined a request to babysit than she would be if a friend declined the same request. The mother may believe that family members are obligated to help one another because they are family members, whereas she would not consider friends to be similarly compelled. Further, a friend's agreement to babysit may elicit more positive feelings on the mother's part precisely because she believes her friend says yes out of a sense of genuine caring, not because the friend feels duty-bound. A mother may feel more at ease asking a friend to babysit than asking a family member because the mother believes she will be able to reciprocate with her friend, but not with her family member.

I used the same process to analyze comments regarding mothers' descriptions of family members and the quality of their relationships with family members as I did for friends (including boyfriends). I focused on the subjective, qualitative flavor of participants' descriptions of the quality of their relationships with family members and friends and the informal social support they provided rather than on the number of family members living in close geographical proximity or the types of informal social support rendered. I identified the comments as positive, neutral, or negative. In this study, the number of positive and negative comments mothers made about their family members and the quality of their relationships with those family members was assumed to reflect the potential costs of receiving informal social support. A neutral comment generally identified the kind(s) of informal social support a family member was

providing the participant without revealing any emotional charge associated with the receipt of support. Rose, for example, had very neutral responses to the following questions.

> I: What do you usually do when you need transportation and it's not available to you?
> Rose: Call my mom.
> I: When you're working or participating in something, who takes care of your children?
> Rose: My mother.

Positive comments made by mothers indicated that they experienced minimal costs of receiving informal social support. For example, Sabra described her child care arrangements with her aunt very positively.

> My little girl, she'd stay there all day if I'd let her. She likes to go over there, and she plays on the swing set, her and Colby. She plays with the puppy, the dogs over there. She likes it.

Negative comments, however, suggested greater costs associated with these relationships and their exchanges. The following mothers provided more negative descriptions of their family members and the quality of their relationships with them.

> I can go to my sister at times, but there are times I can't go to her because she gets down on me because I'm getting down on myself. – Lois

> My mom used to watch him. But I didn't feel as if she was doing a sufficient job. She sent him home with diaper rash and it was to the point of bleeding. I'm not gonna let anyone hurt my son in any way, no matter how close they are to me. – Astrid

I then counted the number of positive and the number of negative comments made by each participant. Negative comments were given a negative valence (-1); positive comments were given a positive valence (1). I summed the number of positive and negative comments each mother made about family members to arrive

at a total for each mother’s overall description of family members and the quality of her relationships with them. For example, if a mother made three negative comments and two positive comments about her family members, her score of the overall quality of relationships with family members would sum to -1. Scores for the overall quality of relationships with family members ranged from -4 to 3.

After coding comments as -1, 0, and +1, I realized that assigning a 0 value to neutral comments had the unintended consequence of discounting the inherent value of receiving informal social support. Thus, I assigned new valences to neutral and positive comments. Negative comments continued to be assigned a -1. I assigned neutral comments a +1, and positive comments a +2 to capture the benefit of receiving informal social support and the additional benefit of positive descriptions in conjunction with receipt of support.

I separately summed the number of positive and negative comments each mother made about her friends (including boyfriends) and the quality of her relationships with these individuals. For example, if a mother made one positive comment and no negative comments about her friends and the quality of her relationships with her friends, her score of the overall quality of relationships with friends would sum to 1. With respect to friendships and romantic relationships, comments by mothers were minimal in number and generally consisted of only one positive or negative comment, or no comments at all. Hence, scores for overall quality of relationships with friends and boyfriends range from -1 to 1.

The number of positive and negative comments mothers made about their friends (including boyfriends) and the quality of their relationships with those friends

reflected the costs of informal social support the mothers experienced. Positive comments made by mothers reflected minimal costs of receiving informal social support. For example, Ellen had received significant help from her friends.

> One of my friends was gonna give her car to that ‘Wheels’ program. But then a bunch of my friends said, “No, give it to Ellen.” So she did. One of my friends took it [the car] for me, and put it, like, got it new brakes, and put it on her charge card. In time of crisis, everybody’s helping me a lot.

Similarly, friends helped some mothers with child care, even without advance notice.

> A family friend who’s extremely close with my son, um, who lives over in Vermont. She would. All I’d have to do is give her a call and she’d come right over. – Margo

Some other mothers were ambivalent or neutral about their friendships.

> I have friends that stop by. I live right here in town. Right by the store that’s open 24 hours a day, so they usually stop by all the time. So, I mean I’ve got a lot of friends. I don’t know if they’re really real friends, but they’re friends. – Keely

I predicted that mothers who made more negative comments about family members and friends, and the quality of their relationships with family members and friends, would be more likely to drop out of the study. I assumed that negative comments reflected the lack of satisfaction with their relationships and exchanges with family members and friends. The lack of satisfaction would contribute to the mothers’ conclusion that the support they may have been receiving was not worth the price they were paying. This conclusion, in turn, would potentially lead them to move in the hope of finding preferable alternatives.

Mothers who made neutral comments about family members, friends, and the quality of their relationships with these people would be likely to stay in the

study, but would relocate geographically. I presumed that this group of mothers would be satisfied enough with their relationships and exchanges with family members and friends to stay in contact even though they may choose to relocate.

At the other end of the continuum, I predicted that mothers who made overall positive comments about family members, friends, and the quality of their relationships with family members and friends would be most likely to stay in the study and least likely to move. These mothers would have the highest levels of satisfaction with their relationships, eliciting a commitment to maintaining these relationships by staying in close geographic proximity. These mothers would prefer to continue receiving the benefits of these relationships rather than risking the loss of benefits by relocating or ending the relationships. Remaining in place would make it easier for researchers to find these mothers for subsequent waves of data collection.

In other words, I anticipated the following outcomes. I anticipated that mothers who made positive comments about their family members and friends, and the quality of their relationships with them, would be *continuer-nonmovers*; they would perceive minimal costs associated with the receipt of informal social support. I believed that those who gave neutral descriptions would be *continuer-movers*. These mothers might perceive costs and benefits of receiving informal social support to be more closely matched, and through CL_{alt} they may be more likely to detect more advantageous configurations in other relationships or circumstances. Finally, I predicted that mothers who made negative comments

about family members and friends, and their relationships with them would be *attriters*. These mothers would experience the greatest costs associated with informal social support, and therefore, would be most likely to give up their current relationships or circumstances in favor of less costly opportunities.

Chapter 4: Findings

The aim of this study was to identify potential connections between informal social support of nonpartnered, low-income, rurally located mothers at the first wave of data collection and subsequent attrition from a longitudinal study, through researcher inability to contact participants. My hope was to use the affect theory of social exchange to accurately predict attrition and mobility based on informal social support in 75% of cases. In this study, tangible support and emotional support served as the two primary currencies in the enactment of the affect theory of social exchange. Emotional support consisted primarily of “trust, listening and reassurance” (Simmons, Braun, Wright, & Miller, 2007, p. 639). Tangible support included the “provision of goods and services” (Simmons et al., 2007, p. 639). Two other important factors in the equation of the affect theory of social exchange are the cost of social support and reciprocity. Women who rely heavily on their social support network can be adversely affected when those in their support system betray or abandon them, and when difficult circumstances affect their sources of support.

Women who depend on large social networks sometimes experience elevated levels of stress (Belle, 1982). One mother in this study talked about

having a romantic interest in addition to having three to four family members nearby, three other friends, and her personal responsibilities.

> Like I said I have a companion now and things aren't going as well. It's like between them [her extended family?] and school and then seeing to my daughter so it's a big toss up. And mainly I've gotten to the point where I just put him to the side. – Kara

Other mothers in the current study spoke directly to costs often associated with the receipt of informal social support as well as costs of not having that informal social support available. After she started living on her own, Lark was simultaneously relieved not to have someone constantly passing judgment on her parenting practices, and concerned about not having ready assistance in managing household chores and other parenting responsibilities.

> Both places I lived before there were extra people so it was pretty crowded. I like it here for the simple fact that it's my house . . . I don't have to worry about somebody telling me "You shouldn't do that with her. You should do this . . ." I don't have them over my shoulder saying stuff like, "She shouldn't be sleeping in your bed, or she needs to sleep in her own bed." In a way there are also disadvantages because if I wanted to run to the store, I'd have to load her up . . . or, if I'm busy trying to get the house clean, and she's underfoot or she's crying, there is no one to help me.

Yet other mothers experienced emotional costs of informal social support when members of their support network struggled (Belle, 1982). Wethington (2000) identifies this phenomenon as the "contagion of stress" (p. 229): a process whereby diverse mechanisms cause the stress of one person's life to adversely affect the lives of those with whom they are connected. Family is a prime context in which such dynamics occur.

> I worry most about my momma. She worry about the bills and her blood pressure. We just found out her blood pressure is high. So I

> worry about her a lot. I don't show it, but I do. But I figure if I show it to her, she'll worry about me. – Jendayi

Women can also feel pressure to reciprocate. For example, in the current study, Astrid states she has use of her grandmother's vehicle. On the one hand, she sounds appreciative of having access to a vehicle. On the other hand, she is also responsible for taking her grandmother, who no longer drives, grocery shopping on her day off. Again, this is a tangible price to be paid in exchange for use of the vehicle.

> She's [mother's grandmother] getting to where she can't really drive anymore so I take her around on my days off. It's my car, but it's not my car. She has the say so, but I pay the bills.

Number of Family Members Living in Close Geographical Proximity

I originally anticipated that women with more family members living in close proximity would be the most likely to remain in the study for all three waves of data collection because they would be more likely to remain in place, close to numerous sources of informal social support. I hypothesized that these mothers would conclude that the rewards of living in close proximity to sources of informal social support outweighed the costs. These mothers would have a larger support network, allowing them to avoid overburdening any one member of the network. Additionally, they would have more people in their lives who would know how to contact them in the future. I predicted that mothers with two or fewer family members living in close proximity would be *attriters*. Those with three to four family members living nearby would be *continuer-movers*. Mothers with at least five family members residing in close geographic proximity would be *continuer-nonmovers*. I reasoned that mothers with the greatest number of family members

nearby would have the most to lose if they moved and/or lost contact with their family members. They would no longer have ready access to vital sources of informal social support.

I found that all but three participants had at least one family member living nearby. In the present study, participants could not be distinguished from one another in any consistent manner based on the number of family members living in close proximity. Table 3 shows predictions based on the number of family members living in close geographic proximity and compares these predictions with actual outcomes for the three groups of mothers: *attriters*, *continuer-movers*, and *continuer-nonmovers*. Contrary to my expectations, no more than three mothers in each group were accurately predicted based on the number of family members living in close geographical proximity.

Table 3

Accurate Predictions Based on Number of Family Members Living in Close Geographic Proximity

	Attriters *N* Proximal family (0-2)	Continuer-Movers *N* Proximal family (3-4)	Continuer-Nonmovers *N* Proximal family (≥ 5)
N accurately predicted	2	3	3

Mothers' Descriptions of Family Members and the Quality of Their Relationships With Family Members

I next attempted to predict attrition using mothers' descriptions of family members and the quality of their relationships with family members. Table 4 shows predicted classifications of mothers based on the sum of their positive and negative comments about family members and the quality of their relationships

with family members. All mothers who made more negative comments (-1) than positive comments were predicted to be *attriters*. Mothers who made overall neutral comments (0) were predicted to be *continuer-movers*. Participants who made positive comments (+1) were predicted to be *continuer-nonmovers*. I believed that mothers who made more positive comments experienced lower costs associated with accepting informal social support and were therefore more satisfied with the quality of their relationships with family members and the exchanges that occurred in the context of those relationships. I associated higher levels of satisfaction with a greater likelihood that mothers would be motivated to stay in place and to maintain contact with researchers because remaining in their current contexts and relationships would provide a greater level of stability in their lives. This method of prediction resulted in predictions that were accurate in no more than approximately half of cases.

Table 4

Accurate Predictions Based on Descriptions of Family Members and the Quality of Relationships with Family Members (Valence of Comments)

	Attriters Valence (-4) – (-1)	Continuer-Movers Valence (0)	Continuer-Nonmovers Valence (1 – 4)
N accurately predicted	7	7	8

Using the second combination of valences (negative comments = -1; neutral comments = 1; positive comments = +2) to predict attrition did not improve my prediction accuracy rates. Valence totals for comments made about family members living nearby ranged from -1 to 15, with 40 of the 45 mothers falling between 1 and 10, inclusive. I predicted, somewhat arbitrarily, that *attriters*

would consist of mothers whose valence totals ranged from -1 – 3; that *continuer-movers'* totals would range from 4 – 9; and that *continuer-nonmovers*' totals would range from 10 – 15.

Table 5 shows that using the second group of valences for predicting attrition proved accurate less often than using the first group of valences. Had I simply grouped mothers into three groups of 15 based on the second version of summed valences, I would have assigned three mothers scoring 3 to the *attriters* groups, and three mothers with the same score to the *continuer-movers* group.

Table 5

Accurate Predictions Based on Descriptions of Family Members and the Quality of Relationships with Family Members (Valence of Comments) Using Second Valence Grouping

	Attriters Valence (-1 – 3)	Continuer-Movers Valence (4 – 9)	Continuer-Nonmovers Valence (10 – 15)
N accurately predicted	3	6	2

Number of Friends (Including Boyfriends) Living in Close Geographical Proximity

In my third attempt to predict outcomes, I based my predictions on the number of friends, including boyfriends, mothers reported living in close geographic proximity. I anticipated that a greater number of friends would indicate that mothers felt more connected to their communities and had numerous reliable sources of support they would be unwilling to jeopardize or lose by relocating. I accurately predicted six *attriters*, three *continuer-movers*, and five *continuer-nonmovers* (see Table 6). Despite improved accuracy in

predictions of *attriters* and *continuer-movers*, as compared to the accuracy of predictions based on the number of family members living in close proximity, fewer than half the predictions in each category were accurate and there did not appear to be any consistent patterns across groups.

Table 6

Accurate Predictions Based on Number of Friends (Including Boyfriends) Living in Close Geographic Proximity

	Attriters *N* Proximal Friends (0-2)	Continuer-Movers *N* Proximal Friends (3-4)	Continuer-Nonmovers *N* Proximal Friends (≥ 5)
N accurately predicted	6	3	5

Mothers' Descriptions of Friends and the Quality of Their Relationships With Friends

As with mothers' descriptions of family and the quality of their relationships with family members, I sought clues to attrition based on mothers' descriptions of their friends and the quality of their relationships with friends. I predicted that mothers who made negative comments (-1) about their friendships would be *attriters*; that mothers who made neutral comments (0) would be *continuer-movers*; and mothers who made positive comments (+1) would be *continuer-nonmovers*. I thought that positive descriptions would indicate minimal costs of informal social support, perhaps avoiding the pronounced emotions family relationships might include. Good quality friendships might provide additional assurance because both parties implicitly agreed to voluntarily maintain the relationships. Exchanges in these relationships might be more reciprocal than

those occurring in extended families. Relationships with friends and boyfriends about which mothers made negative comments would be relationships from which mothers would be more likely to disengage. Once again, findings proved inconsistent (see Table 7). Although three quarters of those who described the quality of their relationships with friends and boyfriends negatively were indeed *attriters*, eleven *attriters* did not describe the quality of their friendships and romantic relationships negatively. Only half of *continuer-movers* described their friends and boyfriends and the quality of their relationships with them neutrally. Eleven women, however, were accurately predicted as *continuer-nonmovers* when looking solely at their descriptions of their friends, boyfriends, and the quality of their relationships with them.

Table 7

Accurate Predictions Based on Descriptions of Friends and the Quality of Relationships With Friends - Including Boyfriends (Valence of Comments)

	Attriters (Valence (-1))	Continuer-Movers (Valence (0))	Continuer-Nonmovers (Valence (1))
N accurately predicted	3	6	11

Table 8

Accurate Predictions Based on Descriptions of Friends and the Quality of Relationships With Friends - Including Boyfriends (Valence of Comments) Using Second Valence Grouping

	Attriters Valence (-1 – 0)	Continuer-Movers Valence (1)	Continuer-Nonmovers Valence (2 – 3)
N accurately predicted	4	6	10

I reassigned the valences of mothers' comments about friends in the same way I reassigned the valences of comments mothers made about their family members and the quality of their relationships with family members. I wanted to be sure to address the possibility that simply having a friend could be considered positive even when mothers did not make any specific negative or positive comments about their friends or the quality of their friendships. Once again, I gave negative comments a -1, neutral comments a 1, and positive comments a 2. Using the second group of valences allowed me to predict outcomes at an accuracy rate similar to that achieved using the first group of valences (see Table 8).

Chapter 5: Discussion

I was unable to use informal social support to accurately predict attrition, with any frequency, from a longitudinal study due to researchers' inability to contact participants after the first wave of data collection among a sample of poor, nonpartnered, rurally located mothers. My hope was to be able to find a relationship between mothers' experiences of informal social support and attrition in at least 75% of cases (12 of 15), using separately the number of family members living in close proximity, the number of friends living in close proximity, mothers' descriptions of family members and the quality of relationships with them, and mothers' descriptions of friends and the quality of relationships with them. Being able to anticipate to which group 75% of a study's sample would belong based on informal social support at Wave 1 would make a strong case for researchers to regularly include items addressing informal social support at the

initial interview. Using informal social support information obtained at Wave 1, researchers could conceivably target efforts between waves of data collection that would ultimately minimize attrition. The one group I was able to predict with close to the accuracy rate I had hoped to achieve was *continuer-nonmovers*; I accurately predicted 11 of 15 (73%) mothers in this group.

Although I was unable to consistently or reliably predict attrition or mobility, some elements of my findings are of particular interest. Findings support the use of the affect theory of social exchange instead of classic social exchange theory in predicting attrition among poor, nonpartnered, rurally located mothers. The two least accurate prediction methods used the number of family members living in close geographic proximity to mothers and the number of friends (including boyfriends) living in close proximity. The rates of accuracy for these two methods were, on average, 18% and 31%, respectively (Table 10). This method of prediction relied on a very simplistic equation to calculate rewards and costs of social exchange. Specifically, a greater number of sources of informal social support would allow for a greater quantity of rewards obtained through relationships with those sources of support. It would also allow mothers to avoid becoming too indebted to a single source of support, thereby minimizing potential costs of social support (Emerson, 1976; Thibaut & Kelley, 1959).

Using mothers' overall descriptions of family members and friends and the quality of their relationships with family members and friends yielded accuracy rates of 49% and 44%, respectively (Table 10). In accordance with the tenets of the affect theory of social exchange, the prediction method taking into account

mothers' affective experiences of family members and friends was accurate more often than using only the numbers of family members and friends living in close geographic proximity. This method took into account mothers' perceived costs of informal social support, as indicated by their positive, neutral, or negative comments about family members and the quality of their relationships with family members.

When I reviewed the prediction accuracy rates for each group of mothers, I found that the average rate of prediction accuracy for *continuer-nonmovers* was the highest average of any of the three groups, at 45% (Table 11). For *continuer-nonmovers*, mothers' descriptions of their friends and the quality of their relationships with friends, including boyfriends, resulted in accurate prediction in 73% of cases (Table 9). Again, this finding supports the affect theory of social exchange; using mothers' descriptions of their friends and boyfriends and the quality of these relationships allowed for the highest average accuracy rate of prediction. It appears that, for *continuer-nonmovers*, ties with friends may have been of particular importance. Three *continuer-nonmovers* had no family members living nearby. It is likely these three mothers relied more on friends because no family members lived close enough to provide informal social support other than possibly money or in-kind contributions.

Another possible explanation as to why use of mothers' descriptions of friends and the quality of relationships with friends more frequently led to accurate predictions for *continuer-nonmovers*, especially for mothers who also had family members living in close geographic proximity, is that these mothers

may have perceived their relationships with friends as involving lower costs than their relationships with family members. If mothers characterized their familial relationships as historically conflicted or costly, these past experiences could adversely affect their current levels of satisfaction with those relationships (CL). For these mothers, their friendships may have had histories that differed from familial relationships in terms of duration and in terms of affective experiences. Mothers may also have found themselves better able to tolerate relationships with friends due to relatively equitable levels of exchange they believed they could not achieve in relationships with family members. Further, it is possible that, in this study, *continuer-nonmovers*' lives, in general, were more predictable than *attriters*' and *continuer-movers*' lives.

On average, *continuer-movers* were accurately predicted in 32% of cases (Table 11). For *continuer-movers*, using mothers' descriptions of family members and the quality of their relationships with family members allowed for the highest rate of accuracy in prediction, 47% (Table 9). Although the prediction accuracy rate remained low using this method, the finding supports the use of affect theory of social exchange in place of classic social exchange theory when predicting attrition from a longitudinal study among poor, rurally located, nonpartnered mothers. It appears to be of some value to incorporate mothers' perceptions of the costs of informal social support when attempting to predict attrition using informal social support.

The average rate of prediction accuracy for *attriters* was 30% (Table 11). Findings again supported use of the affect theory of social exchange in predicting

attrition for *attriters* with this study's sample. The most frequently accurate method of predicting *attriters* used mothers' descriptions of family members and the quality of their relationships with family members. It is interesting to note that using the number of friends in close geographic proximity allowed me to predict *attriters* accurately more often than using the same method for the other two groups. It may be that *attriters* were the most vulnerable of the three subgroups in this study in terms of the precarious nature of their situations. Family members living in close proximity to *attriters* may have been living in similarly dire circumstances, making them less viable as sources of informal social support. At the same time, these mothers may have been the mothers most in need of informal social support. Receiving minimal informal social support from family members, or deeming the cost of informal social support from family members too high, may have compromised these relationships. Needing a great deal of informal social support may have caused these mothers to focus on the number of friends living in close proximity. As posited previously, having a greater number of people to provide informal social support could minimize the risk of losing sources of support as a result of overloading single individuals.

Table 9

Comparison of Accuracy Rates of Initial Prediction Methods for Each Group (%)

Method of prediction	Attriters	Continuer-Movers	Continuer-Nonmovers
N proximal family	13	20	20
Quality of family relationships	47	47	53
N proximal friends	40	20	33
Quality of friendships	20	40	73

Table 10

Average Accuracy Rates for Each Prediction Method (%)

N proximal family	Quality of family relationships	*N* proximal friends	Quality of friendships	*M*
18	49	31	44	36

Table 11

Average Prediction Accuracy Rates for Each Group of Mothers (%)

Attriters	Continuer-Movers	Continuer-Nonmovers	*M*
30	32	45	36

In conclusion, findings of this study support the use of the affect theory of social exchange as more useful than classic social exchange theory in predicting attrition based on informal social support among poor, nonpartnered, rurally located mothers in the Rural Family Speaks project. It is also the case, however, that prediction accuracy rates never exceeded 73% at best. On average, the methods of prediction were accurate in only approximately 36% of cases. The average accuracy rate of predictions for all three groups of mothers was also approximately 36%. Because the results were puzzling, I was eager to investigate additional factors to understand attrition. Some of these factors were directly related to informal social support and others were not.

First, I compared the number and types of informal social support and formal social support received by each group of mothers. I did not attempt to predict attrition based on the number and types of informal and formal social support; I sought similarities and differences when comparing *attriters*, *continuer-movers*, and *continuer-nonmovers*. Second, I made one additional attempt to predict attrition based on a combination of factors (ad hoc investigation).

Number and Types of Informal Social Support

I did not include in my original analysis the number and types of informal social support mothers in each group received. Although I did not attempt to predict attrition based on number and types of informal social support, I reasoned that a greater number of informal social supports received might be related to mothers' perception of greater rewards than costs in their relationships. The mothers' assessments of cost to benefit ratios, in turn, might prove helpful in distinguishing groups from one another. I expected that mothers who reported receiving a high number of informal social supports would be more likely to be found among *continuer-movers* or *continuer-nonmovers*. In contrast, mothers whose informal social supports were quantitatively minimal would view their exchange relationships less favorably, and would be more likely to be *attriters*. They would have less to lose if they moved or lost contact with family members and friends because they were receiving fewer types of informal social support.

When I analyzed patterns within each group (*attriters*, *continuer-movers*, and *continuer-nonmovers*), I found that mothers in all three groups showed some similarities with respect to informal social support. All but one mother received at least one of the following types of informal social support: (a) help with transportation; (b) help with child care; (c) money or in-kind contributions such as diapers, food, or direct payments to creditors; (d) coresidence with extended family; and (e) emotional support. Approximately the same number of mothers (11-13) in each group received help with child care and money or in-kind

contributions (5-9). A comparable number of mothers in each group (2-4) described costs of informal social support.

In general, *attriters* received more types of informal social support than did *continuer-movers* or *continuer-nonmovers*. Ten *attriters* (66%) received at least three of the different types of informal social support listed above, whereas five *continuer-movers* (33%) and three *continuer-nonmovers* (20%) received at least three of the different types of informal social support identified above. Fourteen *attriters* (99%) received help with transportation, whereas ten *continuer-movers* (66%) and seven *continuer-nonmovers* (< 50%) received such help. Six *attriters* (40%) lived with extended family as compared to two *continuer-movers* (13%) and three *continuer-nonmovers* (20%). See Table 12.

Table 12

Receipt of Informal Social Support by Group

Additional Variables	Attriters *n(%)*	Continuer-Movers *n(%)*	Continuer-Nonmovers *n(%)*
Live in family-owned dwellings	2 (13)	0 (0)	2 (13)
Identify cost of informal social support	4 (27)	2 (13)	3 (20)
Help with transportation	14 (93)	10 (66)	7 (47)
Help with child care	13 (87)	11 (73)	12 (80)
Money or in-kind contributions	9 (60)	7 (47)	5 (33)
Coresidence w/ family	6 (40)	1 (7)	2 (13)
n ≥ 3 types informal support	10 (66)	5 (33)	3 (20)

It is difficult to explain any potential connection between the types of informal social support received and attrition. The patterns found contradicted my

assumption that mothers who received more types of informal social support would be *continuer-nonmovers*. In fact, *attriters* received more types of informal social support than *continuer-movers* or *continuer-nonmovers*. One might conclude that the presence of such support did not contribute to increased stability in these mothers' lives. If *attriters* were the most needy mothers in this study, it may have been particularly taxing for their family members to provide the necessary support, resulting in frustration for both parties. Family members may have felt too burdened by their responsibilities to their adult daughters and grandchildren. Mothers may have felt disappointed that their family members could not adequately meet their needs. It is also possible that *attriters*' extended family members were in difficult circumstances themselves and were unable to maintain the level of support their adult daughters needed. If neither the mothers nor their extended family members felt as though they were benefiting appropriately from their exchanges, the frustration and disappointment may have proven costly enough to cause at least one person in the exchange relationship to withhold benefits in order to maintain their own lives.

Number and Types of Formal Social Support

I then examined the types of formal social support services mothers reported receiving at Wave 1. On the one hand, I thought *continuer-nonmovers* would receive the most formal social support and *attriters* the least, leaving *continuer-movers* in the middle once again. On the other hand, I wondered if *attriters* might receive the most formal social support because of potentially being in greater need than the mothers in the other two groups, and, therefore, eligible

to receive more types of assistance. I summarize formal social support data in Table 13.

Once again, I found similarities and differences across groups. Similarities existed across groups with respect to a variation on formal social support, which I call *additional social support*. In some cases, individuals or organizations providing formal social support also rendered help beyond formal arrangements. Specific examples of *additional social support* included child care providers (neither a relative nor a close friend of the mother) who were willing to keep mothers' children beyond regular hours, supervisors at work who were sympathetic to mothers' need to miss work occasionally due to a child's illness, and clergy members who were willing to give mothers and their children financial assistance or rides to attend church services. No more than three mothers in each group reported having two such resources. Seven to 10 women in each category reported no *additional social support*.

I encountered additional similarities as well. The same number of mothers in each group (*n* = 5 or 33%) received assistance with child care and energy assistance. The same number of *attriters* and *continuer-movers* received transportation assistance (*n* = 3 or 20%) and benefits through Women, Infants, and Children, or WIC, (*n* = 8 or 53%). The same number of *attriters* and *continuer-nonmovers* received food stamps (*n* = 9 or 60%) and Social Security death or disability benefits (*n* = 3 or 20%). Over half of *attriters* and *continuer-movers* received the following types of formal social support: food stamps, Medicaid, and WIC. Over half of *continuer-nonmovers* received the following

types of formal social support: EITC, food stamps, free or reduced school lunches, and Medicaid.

Table 13

Receipt of Formal Social Support by Group

Service Received	Attriters *n(%)*	Continuer-Movers *n(%)*	Continuer-Nonmovers *n(%)*
Child Care	5 (33)	5 (33)	5 (33)
Child Support	3 (20)	4 (27)	7 (47)
Earned Income Tax Credit	5 (33)	7 (47)	11 (73)
Educational Loans	1 (7)	2 (13)	1 (7)
Energy Assistance	5 (33)	5 (33)	5 (33)
Food Stamps	9 (60)	13 (87)	9 (60)
Free/Reduced School Lunch	2 (13)	6 (40)	10 (67)
Housing Assistance	4 (27)	6 (40)	2 (13)
Medicaid	8 (53)	12 (80)	9 (60)
Social Security Disability/Death	3 (20)	0 (0)	3 (20)
TANF	6 (40)	5 (33)	0 (0)
Transportation Assistance	3 (20)	3 (20)	2 (13)
Women, Infants, and Children	8 (53)	8 (53)	4 (27)
0 (zero) additional sources of support[a]	10 (66)	8 (53)	6 (40)
1 additional source of support[a]	3 (20)	6 (40)	5 (33)
2 additional sources of support[a]	2 (13)	1 (7)	3 (20)

[a]Additional sources of support include help given by unrelated child care providers, work supervisors, or church staff beyond usual context of formal social support

With respect to differences, *attriters* comprised the greatest number of recipients of TANF (*n* = 6 or 40%). *Continuer-movers* made up the largest number of recipients of food stamps (*n* = 13 or 87%), Medicaid or state-based

equivalents (*n* = 12 or 80%), and housing assistance (*n* = 6 or 40%). Finally, *continuer-nonmovers* constituted the largest number of recipients of child support (*n* = 7 or 47%), free school lunch programs (*n* = 10 or 67%), and Earned Income Tax Credit, or EITC, (*n* = 11 or 73%).

Some interesting observations can be made regarding the rates at which *attriters*, *continuer-movers*, and *continuer-nonmovers* received formal social support. Equal or lower percentages of *attriters* received each type of formal social support than did *continuer-movers* and *continuer-nonmovers*. TANF was the one exception to this pattern. The fact that more *attriters* received TANF could indicate that *attriters* were the most financially needy group in this study. It should be noted, however, that only one less *continuer-mover* than *attriter* received TANF. If *attriters* were eligible for TANF, one could readily assume that they would have been eligible for many other formal social support services. In general, TANF requires the lowest income to meet eligibility requirements when compared to other sources of formal social support. *Attriters*, however, did not report accessing formal social support at higher rates than mothers in the other two groups. It is not known why *attriters* did not access formal social support for which they were likely eligible. It is possible that women in this category declined formal social support to avoid the stigma associated with receipt of such benefits (Blank, 2005; Sherman, 2006). One could argue that gaining access to formal social support may have enhanced stability in the lives of *attriters*, thereby reducing attrition.

Continuer-movers, as a group, remain somewhat of a mystery. More *continuer-movers* than mothers in the other two groups received Medicaid or the state-based equivalent, housing assistance, and food stamps. Over half received WIC. I originally thought that mothers receiving housing assistance would be less likely to move because the benefit (affordability) of their living situations outweighed the potential costs (living in close quarters with other families, living near families they perceived as having different values). It may, however, have been the case that their status as recipients of housing assistance allowed them the flexibility to move that other mothers did not have. If they lived in subsidized housing units, the low cost of rent may have permitted them to set aside adequate funds to relocate. Similarly, a mother in possession of a housing voucher would be able to transfer use of the voucher to another residence. This line of reasoning explains residential mobility for approximately one third of *continuer-movers*. What other factors encouraged or made relocation an option are unknown. Even more baffling is how formal social support might have been related to *continuer-movers*' persistence in the study.

If one were to make the argument that increased access to formal social support improves the stability of mothers' lives, one might assume that *continuer-nonmovers*, debatably the most stable of the three groups of mothers in this study, would have received the most formal social support. Although overall, *continuer-nonmovers* did not receive more formal social support than *continuer-movers*, more of them did receive child support and EITC. The relative stability in these mothers' lives may have been related to having former spouses or

estranged partners who were able to make child support payments consistently, and to the mothers' ability to maintain employment at a level adequate to receive EITC. In other words, the specific types of formal social support *continuer-nonmovers* received are indicative of the likelihood that they were better off socioeconomically than *attriters* or *continuer-movers*. Further, it is possible that the benefit of having consistent employment outweighed any potential costs associated with remaining in place. Similarly, mothers in this group may have assumed that remaining in place would avoid prospective costs of delays or complications in receiving child support payments associated with relocating.

Ad Hoc Investigation

I did make one further attempt to predict attrition. In pursuing the additional analysis, I returned to my original question: "Did mothers talk about informal social support in a positive or negative light?" Mothers' responses to this question formed the basis of my original predictions. The accuracy of my predictions in my original analysis, using mothers' comments about their family members and relationships with them, was close to 50% for all three groups. Thus, I opted to use these predictions as the foundation of a more broadly based effort to place mothers in the most appropriate categories.

I started with my original predictions of the groups to which each mother belonged. I re-examined the overall circumstances of mothers whose descriptions of family members and the quality of their relationships with family members I had previously assigned mildly negative (-1), neutral (0), or mildly positive (+1) valences. I initially hypothesized that mothers who made many

negative comments about their family members and the quality of their relationships with family members would experience their families as less supportive, making these mothers more likely to be *attriters*. I also anticipated that mothers who made many positive comments would experience their families as more supportive, making them more likely to be *continuer-nonmovers*. I found it reasonable to surmise that mothers who made mildly positive or negative comments would be mothers for whom other life circumstances might be especially influential.

I added the following additional elements to my ad hoc analysis: (a) homeownership, (b) adequacy and affordability of housing and perception of neighborhood (c) coresidence with extended family members, and (d) additional costs of informal social support. Reassignment was in fact limited; only seven mothers were reassigned. With the exception of one participant, all those who were moved from one category to another were initially categorized as having mildly negative, neutral, or mildly positive perceptions of family members and their relationships with family members. In the following paragraphs, I briefly describe my rationale and expectations for each of the elements identified above. I believed some elements would be more useful in distinguishing *attriters* from all *continuers*, and that others would prove more instrumental in differentiating *movers* from *nonmovers*.

Homeownership.

I surmised that mothers who were homeowners would be *continuer-nonmovers*. Research shows that homeowners are likely to remain in their

neighborhoods for longer periods of time than nonhomeowners (Rohe, Van Zandt, & McCarthy, 2002). Using the affect theory of social exchange, one could reasonably conclude that homeownership may generate positive feelings by providing a sense of accomplishment among women in this study. The ability to create wealth and assets may allow poor, nonpartnered mothers to reduce their dependence on informal social support, and may simultaneously increase the likelihood that these mothers could find themselves more often able to reciprocate. Homeownership may also generate a powerful sense of belonging to "mainstream" culture even when homes are located in less desirable neighborhoods.

Potential costs of homeownership also exist. It can serve as a deterrent to residential mobility (South & Crowder, 1998). Minimization of mobility serves well nonpartnered mothers who live in nonpoor neighborhoods, but may prove a disservice to their counterparts residing in poor neighborhoods. Low-income homeowners may choose to remain in their homes despite potential drawbacks of living in a poor neighborhood because home ownership is the only avenue for building wealth or generating assets (Turner & Smith, 2009). Limited mobility (Kiviat, 2010; Rohe, Van Zandt, & McCarthy, 2002) can, in turn, compromise low-income owners' pursuit of other opportunities such as better paying employment. Further, owning a home that requires repairs can drain cash supplies, preventing owners from building reserves.

I anticipated that other aspects of housing and neighborhood might prove useful in predicting attrition. Relocating among low-income women has been

shown to stem primarily from a desire to escape expensive, unappealing circumstances (Belle, 1982).

Affordability and adequacy of residence.

I predicted that mothers who struggled financially with paying housing costs and described their housing as inadequate based on aspects such as condition, size, or neighborhood would be most likely to move. I surmised that those who considered their housing to be affordable but inadequate, or the converse, would be more likely to stay in their current housing than mothers who deemed their housing to be both inadequate and unaffordable.

Similarly, mothers who expressed dissatisfaction with their housing complexes or neighborhoods would be more likely to move. Some mothers complained about neighbors' children being "unsupervised," and that "people live on top of each other" (Crissy). A few mothers, living in subsidized housing complexes, distanced themselves from their neighbors. One mother diplomatically stated that people living in her housing complex had values that differed from her own. For her, it could be that living among a stigmatized population proved too high a price to pay for affordable housing. This sense of difference could result in her decision to relocate. Another mother's observation reflected findings that small town communities are sometimes closed to newcomers. ". . . many of the people have grown up together and known each other for centuries . . . it's been a little hard for the kids to kind of break into the social system" (Kellan).

Coresidence.

I theorized that mothers living with extended family members would be more likely to be *continuer-nonmovers*, if they also made positive comments about their family members and the quality of their relationships with them. Their housing situations would likely be more affordable than other options. Their family members might be more flexible than a traditional landlord about payment of rent, if any payment were expected.

If mothers' descriptions of family members and the quality of their relationships with them was negative, I expected that mothers who lived with extended family members would be likely to be *continuers*. The ability to pool resources would be an obvious, tangible benefit of coresidence, but interpersonal challenges associated with coresidence might outweigh financial benefits. If mothers in this study were living with extended family members, it seemed likely that family connections would make it more likely that extended family would know how to locate the mothers in this study even if the mothers had moved due to interpersonal conflict with family members.

Costs of informal social support.

I anticipated that mothers who identified costs of accepting social support would be more likely to be *continuer-movers* or *attriters*. Costs of social support have been identified in research of poor women (Belle, 1982). Although participants were not explicitly asked about potential costs of social support in the Rural Families Speak project, several volunteered such information.

> Two womens in the kitchen ain't all that exciting sometimes. And then really, me and my mama had different views. Mom didn't want me to chastise the way you're supposed to . . . I told her me and

> her had different views on things. I said we going to have to separate. – Raziya

> They [mom and sister] help me, but they always got a negative attitude. If they do it, they actually don't want to do it. – Cordelia

Although I examined costs of informal social support in my original analysis, I read transcripts again during my ad hoc analysis to identify costs I may have missed during the initial analysis. Intensely negatively charged relationships may compromise the bond between poor, nonpartnered mothers and members of their extended families. Poor mothers may feel distraught if they see themselves as unable to return favors. Mothers may feel resentful if they do not receive support when in need, or if family members render support while simultaneously conveying negative or judgmental attitudes toward the mother in need. Mothers may deem the emotional cost of accepting informal social support as far outweighing the benefits they receive (Reschke, Manoogian, Richards, Walker, & Seiling, 2006).

Table 14 summarizes the reassignments made and the rationale for the changes. For example, Lark had an overall mildly negative perception (-1) of her family members and her relationships with them, so I initially predicted she would be an *attriter*. Incorporating the additional factors, I saw that she was not a homeowner, that she described her rented housing as unaffordable and inadequate, that she did not live in a family-owned residence or with members of her extended family, and that she identified costs of accepting social support. I opted to reassign her to the *continuer-mover* group. I posited that her housing situation was such that she would be likely to move to a more affordable and

livable residence. Further, I hypothesized that the fact that she identified costs of accepting her family's informal social support would correlate to a greater likelihood that she would forego the benefits of receiving support in order to avoid the costs thereof. Nonetheless, I theorized that her relationships with extended family members would be good enough that they would know how to contact the mother if she moved. I used the same rationale regarding costs of informal social support combined with having somewhat positive relationships with extended family members to move Raziya from the *attriter* category to the *continuer-mover* category. I reassigned Charity from the *attriter* group to the *continuer-nonmover* group, Audra from the *continuer-mover* category to the *continuer-nonmover* category, and Ellen from the *continuer-mover* group to the *continuer-nonmover* group because they were homeowners. Finally, I reassigned Chilali and Crissy from the *continuer-nonmover* group to the *continuer-mover* group based on the costs of social support identified by both mothers.

Table 14

Rationale for Changes and Number of Cases Reassigned (N)

Rationale for Change in Predicted Group	Predictions Changed (*n*)
Housing status	5
Homeownership	3
Negative perception of neighborhood/housing complex	2
Costs of informal social support	2

As anticipated, I did meet with improved success in predicting *continuer-nonmovers* (9 of 15, or 60%) when I incorporated data on housing status and costs of informal social support. My original analysis, using only mothers' perceptions of their family members and their relationships with their family

members yielded accurate predictions less frequently (7 of 15, or 47%) for *continuer-nonmovers*. This method did not yield accurate results as often as using relationships with friends. This approach, however, did not yield more accurate predictions for *attriters* or *continuer-movers*. Affordability and adequacy of housing and whether mothers lived in family-owned residences did not appear to influence prediction accuracy. Table 15 displays the accuracy rates of this multi-pronged ad hoc prediction method.

Table 15

Accuracy Rates of Ad Hoc Prediction Method for Each Group (%)

Attriters	Continuer-Movers	Continuer-Nonmovers	*M*
33	47	60	47

I predicted that mothers who were homeowners would be *continuer-nonmovers*. In fact, five out of seven (71%) homeowners stayed in the study for all three waves of data collection, a period of three years. Although very few mothers (15.5%) in this sample were homeowners, the fact that homeownership was associated with being a *continuer-nonmover* led me to conclude that homeownership may be of use in predicting attrition. In this study, the benefits of homeownership might have outweighed other costs associated with these mothers' general life circumstances, encouraging them to remain in place and thereby easier to locate for subsequent waves of data collection.

I anticipated that mothers who were living with members of their extended family would be likely to be *continuer-nonmovers*, or perhaps *continuer-movers*. The converse, however, was true; coresidence was associated with attrition.

Among *continuer-movers*, two mothers (13%) lived with members of their extended families. Among *continuer-nonmovers*, three mothers (20%) lived with extended family members. Among *attriters*, six women (40%) lived with extended family. I believed that mothers who lived with family members would be motivated by comparatively low rent, if family members charged any rent at all, to stay in place. I also believed that the ties in coresiding extended families were such that contact would be maintained if one family moved out of the common residence.

What accounts for the apparent relationship between coresidence and attrition? It is possible that for the mothers in this study the costs of coresidence grew to outweigh the benefits thereof. Differences in parenting styles, general housekeeping habits, or a lack of reciprocity may have created an untenable atmosphere for one or more parties. The creation of such an unpleasant interpersonal environment may have led mothers to move out, and may have compromised the quality of their relationships with family members to the point that family members would not know how to contact mothers for future waves of data collection. It is possible that living with extended family members provided mothers with enough support of various kinds that these mothers were able to get out on their own. Such a scenario offers a favorable explanation as to why mothers who were coresiding at Wave 1 moved during the course of the study, though it does not necessarily account for attrition.

Why were these family members unable to lead researchers to participants for subsequent waves of data collection? One possible explanation is

that family members' lives were equally chaotic to the mothers' lives. Family members may have been just as challenging to locate as were some mothers in the study. Even if mothers had provided contacts to assist researchers in finding them for future waves of data collection, this would prove moot if researchers were unable to locate the contacts.

Life's unpredictability and predicting attrition.

In the process of engaging in an ad hoc investigation and comparing number and types of informal and formal social support, I gained insight into the multi-layered nature of social support and into the intricacies of predicting attrition. Predicting human behavior is a difficult undertaking; this is essentially what predicting attrition requires one to do. Multiple, unknown, unpredictable variables exert influence on peoples' lives with great regularity. A mother in this study, for example, was faced with having to find a new child care provider when her friend, who had been providing child care at very low cost, obtained regular employment outside the home.

Those with financial, interpersonal, and internal resources may be able to respond to sudden shifts in ways that minimize the negative impacts of unexpected changes. Poor, nonpartnered, rurally located mothers, however, often do not enjoy the resources necessary to avoid upheaval when faced with unanticipated and often sizeable challenges. Using the example above, a mother with the financial means to pay for higher cost child care would have more options available to her than her low-income counterpart upon losing a current child care provider. If the mother with low income were unable to find child care

quickly, the seemingly independent event of losing her child care provider could trigger a cascade of detrimental effects. She might miss time at work and lose the attendant income. She may then lose her job due to absences, subsequently fall behind on monthly bills, and ultimately be evicted.

One can reasonably conclude that the lives of rurally located, poor, nonpartnered mothers are particularly complex. In addition to including many factors in their decision making, life circumstances may change far more frequently for this population than they would for a population of partnered mothers of higher socioeconomic status living in urban environments. The choice a mother makes about remaining in a longitudinal study or relocating may differ from day to day based on the challenging, constantly changing nature of her life, including changes in informal social support. I may have been unable to discover patterns that allowed me to predict attrition and geographic mobility with any consistency precisely because the lives of poor, nonpartnered, rurally located mothers are chaotic and unpredictable. Making predictions about these women's lives is virtually impossible. In fact, I was able to identify chaotic circumstances in the lives of *attriters*, *continuer-movers*, and *continuer-nonmovers*. To illustrate how the instability of the mothers' lives in this study may have inhibited my ability to make predictions, I selected one case from each category that I never, or only once, predicted accurately. Below I explain the bases of my original analysis and ad hoc investigation, and then I describe the challenging circumstances of each mother's life that might have invalidated my predictions.

Adeline.

First, I discuss Adeline. At the time of the first wave of data collection, this woman was a 27-year-old mother of two children, both under 10 years of age. Adeline identified herself as White and had been separated from her husband for four years. During her separation, she filed for divorce and became engaged to another man. Subsequently, her fiancé died. Although she had lived in a neighboring county for several years, following her fiancé's death, she moved back to the county where she had lived most of her life to be closer to family members. Though she lived in an apartment in a subsidized housing complex at the time of her first interview, she had lived with her sister for a few months when she moved back to the area.

Adeline's landlord was her best friend and employer; Adeline worked as a housekeeper in her apartment complex. Her estranged husband was employed and carried insurance benefits for the daughters. Adeline stated she married at 16 and was not employed until she was 21 because her husband did not want her to work. Adeline had not completed high school, nor did she have a GED. She did not have her own transportation and generally borrowed a vehicle from her landlord, her mother, or her sister.

She described her family while she was growing up as "VERY poor." She had two siblings, including a brother who died when he was 16. Neither of her parents received formal education beyond eighth grade, and she described her father as unable to read. Her father was rarely around and had trouble keeping jobs for more than a few weeks at a time. Adeline described her mother as a very hard worker.

At the time of the first interview, Adeline received energy assistance, and benefited from the school lunch program and EITC. Every two to three months, Adeline pawned belongings and retrieved the item(s) when she had sufficient resources. She stated she also borrowed money for groceries from family or her landlord approximately every two months.

I posited three times that she would be a *continuer-nonmover* and twice that she would be a *continuer-mover*. Based on the fact that Adeline made one positive comment about family members and friends and the quality of her relationships with them, I hypothesized that she would be a *continuer-nonmover*. When I included housing status and reported costs of social support, I still anticipated that Adeline would be a *continuer-nonmover*. Although she had lived with her sister for 3 – 4 months when she moved back to her hometown, she was living on her own at the time of the first interview. She indicated that her apartment was *adequate* and *affordable*. Adeline was not a homeowner, she was not living with extended family, nor did she indicate any costs associated with informal social support. But she also reported moderate numbers of family members and friends living nearby, leading me to believe she would be a *continuer-mover.* Presumably, she had sufficient contacts that locating her for follow-up waves of data collection would be probable, though perhaps not enough contacts to provide a strong pull to remain in place. All these factors indicated to me that Adeline would be a *continuer*. She regularly received help with transportation, child care, and monetary contributions from family members and friends. She had comparable numbers of family members and friends locally,

at least six people, on whom she could rely for support, which led me to anticipate that equity and reciprocity in her friendships balanced out dependence Adeline may have experienced with respect to her reliance on family members.

Further, Adeline made several comments that suggested an investment in remaining in place. When asked why she moved to her current location she replied, “My family’s all down here so I just moved back.” When asked whether she would relocate out of state if offered a job with higher pay and benefits, she responded, “It would really have to be good benefits.” The interviewer asked, “What would keep you here?” Adeline stated “My family. My children and their dad.” She reported being “real close to [her] family now.”

I did not predict that Adeline would be an *attriter*, but she was indeed lost from the study due to researchers’ inability to contact her after Wave 1. The comments this mother made (see paragraph above) implied that she very much valued being in close proximity to members of her extended family. Additionally, she and her children had experienced the loss of a primary source of informal social support when her fiancé died. She may have appreciated the stability in social support she believed she would gain by remaining in place.

Another facet of her life, outside the framework of my original and ad hoc analyses, was revealed when she talked about her estranged husband. In concentrating on family members and friends who provided various types of informal social support, I overlooked the sizeable influence Adeline’s estranged husband exerted on her and her children. She was stressed when he reneged on his stated agreement with divorce and custody plans on which the two of them

had previously agreed. Lack of agreement between the parties then jeopardized the willingness of Legal Aid to get involved. Adeline found a lawyer who would take her case, only to discover he was the attorney whose services her husband enlisted when filing for divorce approximately two years earlier. Further, she discovered that her sister-in-law (her husband's sister) worked for this attorney.

> So my husband tells me he's going to have my sister-in-law talk to the judge and do all this stuff, really being mean about things. And he's wanting to claim one of the kids each year at tax time. And they don't live with him.

When asked if there was someone who made things harder for her family, she said,

> "…my soon to be ex-husband. He makes things really difficult. He keeps my girls pretty emotional about everything. He lies to them a lot. He says he's going to take them and do this and he never shows up. Or just that type of thing. He keeps things pretty rattled most of the time.

To further complicate life, this mother and her children faced a significant loss when her fiancé died. It was after his death that she moved closer to her natal family members.

> …I had lived with a guy, me and my kids lived with a man. We were engaged and everything and he passed away. So when I moved back down here, I was just really, I guess, lost. I felt like I'd lost *everything* [emphasis added].

Obviously, because Adeline was lost from the study, we have no information to aid us in explaining her disappearance. It is possible that the new boyfriend she had at the time of the interview was able to provide for her financially and that she and her children moved in with him. She may have come to the conclusion that allowing herself to risk being dependent on a man for financial support was preferable to the certainty of having to pawn belongings

and borrow money from others every two to three months. Possibly, the cost of dealing with her estranged husband and of her children being repeatedly disappointed by his failure to follow through with plans grew to outweigh the informal social support she received from others who lived nearby. Perhaps her estranged husband became more of a threat to Adeline and her children, prompting her to leave the area without providing family members and other friends with new contact information. In any case, it is clear she saw her options as changing following her fiancé's death and given her estranged husband's problematic behavior. Dealing with the unpredictable event of her fiancé's death and the erratic behavior of her estranged husband may have forced Adeline to make decisions that created an unpredictable path.

Jenise.

Second, I present Jenise, a 36-year-old mother of four children. Jenise identified herself as White and separated. At the time of her original interview, only two of her children were living with her. Her two older boys, ages 11 and 9, were residing in a therapeutic children's home. Her two younger children, 8 and 5 years old, were in the physical custody of extended family members, but recently had been returned to their mother's custody. She reported being clean and sober for 13 months at the time of the interview. Though she was not currently employed, she had been placed in a volunteer work experience as part of her welfare requirements. She had neither her own transportation nor emergency child care resources. Her stepfather and one of her two sisters lived in the same town as Jenise.

She and her husband had been separated for 2.5 years, 18 months of which he was incarcerated. He was arrested for assaulting one of her older sons, his stepson. Though he was now allowed visitation with the youngest boy, one of his two biological children, he was still not permitted to see his daughter. Jenise reported that she and her husband got along and that he helped out financially by buying milk or other items for her and the children.

Jenise reported having moved about six times in the last two years because of her alcohol and drug use problems. She and two of her children lived in a one-bedroom apartment. Though affordable, Jenise considered the apartment too small for three people. It would certainly be too small once her two older children returned home. Further, she described the landlord as “mean” and the conditions of the apartment as poor.

Three attempts at predicting outcomes led me to believe that Jenise would be an *attriter*. I predicted she would be an *attriter* once because she had only two family members living in close proximity, and I made the same prediction because she reported having only two friends who lived nearby. Her overall comments about family members and the quality of her relationships with them summed to -2, which led me to predict that she would be lost from the study. The fact that Jenise made such negative comments suggested to me that she might be eager to move.

Her present housing was barely adequate and would prove inadequate once the remaining two of her four children returned to her physical custody. Moving would become necessary, increasing the possibility that Jenise could be

lost from the study. She was involved with the state's child welfare division (a source of formal social support), however, which I contended, would make it easier to track her down for subsequent waves of data collection, improving the chances that Jenise would be a *continuer-mover*. Although her descriptions of her friends and the quality of her relationships with them carried an overall positive valence (+1), I did not hypothesize that the positive nature of these relationships would result in Jenise being a *continuer-nonmover*. I anticipated that the requirement of the child welfare division that she have adequate housing for all of her children upon her return would, in turn, require that she move to a new residence.

Jenise did move and also remained in the study; she was a *continuer-mover*. After reading interview transcripts from subsequent waves of data collection, I learned she experienced several positive changes following the first interview. Jenise had indeed moved within the same community. She had obtained subsidized housing and her two older sons had returned from their residential care placements. She had re-enrolled in community college, earning good grades, but she dropped out when her boys returned home because she indicated handling their reintegration and taking classes was difficult. She did, however, plan to return to college in the fall. She stated she stayed in the same community because some of her children's extended family members lived nearby and the father of her youngest two children also resided in the same town. She enjoyed the local community college and being able to get everywhere

without much trouble. She had obtained a couple of short-term but well-paying jobs.

Some other aspects of Jenise's life became more challenging. As mentioned earlier, Jenise dropped out of school when her two older boys returned to her home. She spent a great deal of time and energy making certain that all of her children, but particularly her older boys, were doing well in school and receiving the services they needed. Although she did have extended family members living nearby, they did not appear to provide much informal social support for Jenise. Her mother passed away prior to the first wave of data collection. Since her mother's death, Jenise had kept in contact with her stepfather, but he had been quite ill and had difficulty obtaining appropriate medical treatment. Jenise's sister, who had seven children of her own, provided little assistance.

Jenise expressed frustration with some of the agencies from which she was receiving formal social support. She did not understand the logic of the welfare program not supporting the pursuit of education. She knew she would become ineligible for cash welfare once she obtained her student loans and began attending classes. She also would become ineligible for child care subsidies. Jenise felt her access to medical care was compromised because she was on the Oregon Health Plan, the state's Medicaid equivalent, as opposed to private insurance. For example, she complained about having to get authorization from the insurance provider for her son to obtain emergency room

services. Of the two food banks in town, Jenise indicated she would no longer go to one because “the ladies down there are really mean.”

By the time of the third interview, Jenise’s life was in even more disarray. Her children had spent part of the previous year in foster care because she invited her estranged husband into the home to assist with repairs despite the fact that he was mandated to have no visitation with any of the children. One of her older sons damaged part of the refrigerator and a door during an outburst. She reported feeling pressure from the housing authority to get the repairs made. At the time of the second interview, the children were in the process of transitioning back to living with Jenise. She seemed to be getting less support from her family members and none from friends. She stated that she had not received practical help from either family or friends in the month prior to the interview. Furthermore, she complained that her son was being “physically abused by the special education teacher.”

> He [her son] had some behavior things going on, and he has to be placed in holds. And he never, never I’m telling you, never says he didn’t need to be placed in holds. He accepts the responsibility, but the teacher’s not doing appropriate holds and once he put his knee on his wrist and sprained his wrist and, yeah but then they said that he beat the door down and did it to himself. But the door’s metal and it’s still standing, so you know. He broke through the door, that’s what they called and told the emergency room. So we got there and the emergency room had an attitude about [my son] and anyway, he’s at a different school right now and he’s doing well.

All four of her children had significant physical and mental health issues, ranging from asthma to learning disabilities to anger management issues to

ADD/ADHD to a broken back. Jenise continued to deal with her own health issues: recovery from addiction, depression, anxiety, and migraines.

Jenise indicated she did not have much support. “I wish I had more support, but I just don’t have it. And since my mom’s gone we just don’t have a family. So. . .” Despite the fact that she did not have much, if any, informal social support, Jenise did have a great deal of involvement with formal social support services through child welfare, juvenile probation, the health department, counseling services, and at times the schools. On occasion, Jenise felt supported by these agencies and at other times she did not. She stated she experienced a great deal of pressure and stress associated with her involvement with formal support service providers; presumably her involvement with some of the organizations was not voluntary.

Contrary to my original expectation that the presence of family members and friends who provided informal social support and mothers’ descriptions of those people and the quality of their relationships with them would be associated with being a *continuer-nonmover*, it appears that a lack of informal social support contributed to Jenise’s status as a *continuer-nonmover*. Although she had made many positive changes in her life, Jenise had made at least one choice that resulted in losing custody of her children for a second time. Perhaps because she lacked other sources of informal social support, Jenise invited her estranged husband into her home to perform repairs necessary to maintain her subsidized housing. She did this even though she knew he was legally mandated not to have contact with his children and stepchildren. Losing custody for a second time

brought increased agency involvement in her family's life. It did not become clear during the third interview whether extended family member had once again agreed to take physical custody of Jenise's children or if they were placed with other families.

In the case of Jenise, it seems the influence of formal social support outweighed the lack of informal social support, resulting in her being a *continuer-mover* rather than an *attriter*. She was committed to doing what she needed to do to regain custody of her children, and that may have involved maintaining the residence to which she moved when her older sons were previously returned to her custody. Further, because of her extensive involvement with agencies, she may have been more amenable to remaining in the Rural Families Speak study. Even though she found agency involvement in her life frustrating, she was also very accustomed to having "outsiders" ask about her life.

Taffy.

Third, I present Taffy, a 28-year-old single African American mother who lived with her two daughters, her sister, and her mother. She had a reasonably active social life, going to flea markets and driving around with her girlfriends on weekends when she was not working. She was employed full-time at a local youth facility. She went dancing once or twice a month with her girlfriends. She seemed to take advantage of social opportunities and of her mother's willingness to take care of her children.

> I think we party till the break of dawn. We party like there's no tomorrow. They like you got lost, didn't you? We like, yes we did. Cuz we don't know when we ever going to get that day again. We went out two days straight. And my mom looked at me like y'all got

> lost. Y'all don't know how to come home. Y'all forget y'all babies. I was like yeah, I know, but here's some money, though, and she's fine then. We go out dancing. I'm a dancer. I like to go out of town.

Though she acknowledged some benefits of living with her mother, she preferred to be on her own. Several times she brought up the costs of informal social support. She had mixed feelings about her neighborhood. Although it was close to the library, her child care provider, and the laundry, there was considerable drug and prostitution activity on a nearby street corner. She did not have her own transportation and either got rides or took a taxi to work. Otherwise, she and her children navigated primarily on foot.

Three times I predicted she would be an *attriter*. Overall, Taffy's descriptions of family members and the quality of her relationships with them were more negative than for any other participant, prompting me to believe she would be an *attriter*. The fact that this mother reported 0 to 2 family members living in close geographic proximity, led me to hypothesize that she would be an *attriter*. When I examined her housing status and the costs of informal social support Taffy described in addition to her descriptions of family members and the quality of her relationships with them, I still foresaw that she would be an *attriter.* Although she was living with extended family members, which might have benefited her financially, she identified notable costs of social support. Taffy's comments suggested that she felt not only that she was imposing on her mother, but also that her mother was imposing upon her and her children. When asked how her family was adjusting to living with her mother, Taffy responded,

> I think they feel just like me, they um they know it's not home. They know it's like mom-mom place, but I think they much rather have

> their own, they'd rather much have their own space. Cuz, normally, whenever I had my own place, I let them go on about their business. They go in their rooms and do whatever they want and they really can't do that because my mom's like pick this up, pick that up. We always, we on pins and needles. That's why I'm like okay, it's time to go. I mean cause I can't, I'm use to doing my thing and you have your own thing and I've got to go.
>
> I mean my mom is the one who's suppose to watch them, but then again I try to ask a couple of friends if they don't mind. Because my mom, she has, Saturdays and Sundays are her days. She goes to church on Sunday. She goes to choir rehearsal on Saturday. So basically I feel like I'm tying her down because I'm asking her to keep them…

Taffy was also unhappy with the neighborhood in which she and her mother lived, especially because of what she saw as its unsuitability for her children.

> I don't want to raise my kids in a drug infested area that's high in crime rate. They don't have to be exposed to that. . . . So, I mean, they can't even go outside and play. I have to actually keep them in the house or take them to a park or take them to my girlfriend's house just for them to run outside and run their energy off." At night "it can get right loud because right on that corner . . . right down the street here . . that's where most, some of the drug addicts . . . like to hang. They prostitute from this same corner.

Taffy appeared to have some unresolved issues about how her mother had treated her during childhood. She described her mother as being fairly severe in maintaining discipline, unwilling to engage in open discussions about issues such as sex, and as forbidding Taffy from participating in any activities "associated with boys." As the oldest child, she

> was constantly watching the kids. So really, I felt like my freedom and my childhood were stripped from me because I always had to stay in the house and watch the kids while she went to work and everything like that. And I started, I was grown-up before my time, I feel like.

Taffy discussed current problems in her relationship with her Taffy says, “My mom.” She continued,

> You feel like you’re on pins and needles if you don’t. If this was here. If that checkbook was one. Pick that up. Get this up. And then like when she don’t discuss bills with me. That get to me. I’m the type of person, okay I sit down, this is what I need to pay this week. My mom, she has no sense of budgeting. None. She does not manage money well. And see, that drives me nuts. And like they said, two women in the same household cannot live together.

The only information that led me to think Taffy would be a *continuer-nonmover* was the fact that she identified at least five friends living nearby. The fact that Taffy had numerous friends suggested that she might have powerful ties to the local community that would keep her in place. Her descriptions of her friends and the quality of her relationships with them, however, had a neutral valence (0), leading me to anticipate that Taffy would be a *continuer-mover*. Though she had several friends, she did not describe them or the quality of her relationships with them in a particularly positive light. Thus, she might maintain contact with her friends even though she did not feel a strong desire to remain in place.

Contrary to most of my predictions, Taffy ended up being a *continuer-nonmover*. At the second wave of data collection, some aspects of Taffy’s life had remained the same. Taffy reported she was still living with her mother. She still felt as though the space was too small for everyone and that the condition of the apartment was “a problem.” She had not yet moved in spite of her complaints because she had been unable to locate a better alternative. She was still employed at the same youth center as she had been at the first interview.

Taffy had also experienced some changes between Waves 1 and 2. She gave birth to the child with whom she was pregnant at Wave 1. She underwent foot surgery, and at Wave 2, she stated she would be unable to work for another eight weeks. She had a different boyfriend at Wave 2. She was taking a home study medical billing course. She had managed to obtain a vehicle.

Taffy conveyed negative perceptions of and experiences with providers of formal social support. When asked about her opinions regarding welfare reform, she said,

> I don't have to I don't want it. . . . Just because it is too much to go through to try to get help. . . . I'm used to having my own money, doing my own thing, cause I don't have to answer nobody's questions. You have got to go through a million and one questions before they will help you. And I'm like, I don't have time.

Taffy took personal offense to being offered only $19/month in food stamps, and told the case worker to keep it. She did acknowledge accepting food stamps, however, when "they decided to give me a little bit," more specifically $341/month. She became eligible for this amount due to being unable to work after her surgery. With respect to paying bills, Taffy admitted that "once or twice maybe the water got shut off, just because we didn't pay the bill, it didn't get there on time." When asked how she handled that, she said, "Shoot. Went over to my girlfriend's house, did what we had to do. Tell that nigger [sic] to come over and turn the water back on. That's just about it."

Taffy did have some informal social support through friends. She traded child care with a girlfriend or two. They also "bum[med] money off each other

right and left." Her relationship with her mother appeared to become increasingly strained over time. Taffy reported that

> she's just been plucking my nerves. . . . I can't turn to my mom, because me and my mom are not what you really call close. And if I wanted to go to my mom and talk to her, mom why this? I can't do that. . . . It's stressful for me because I'm home with my mom, and she has her values, I have mine, she lives one way, I live this way. . . Just my own privacy, because I do things she don't like and she does things I don't like, and two women in the same household just don't mix. . . . She makes it sometimes so I don't want to be around her, period. So it's depending, because she has mood swings, bad.

Between Waves 2 and 3, Taffy's life had become significantly more chaotic. She still lived with her mother, despite the stress she perceived to be caused by coresidence. She received practical help *often* from friends and *sometimes* from family members. She was the driver in a car accident that killed her girlfriend's daughter. After the accident, Taffy became extremely depressed and was hospitalized for suicidality. She lost her job with the youth center while in the hospital. Even though she completed the medical billing home study course, she had been unable to obtain related employment. At Wave 3, she worked on an assembly line. She had moved up the waiting list for Section 8 housing, and she was hoping to move into an apartment next to her mother's. She gained a large amount of weight, up to size 18/20 from size 10/12 in a year's time, and could not afford to buy many new clothes. Her oldest daughter was diagnosed with ADHD and Taffy said her daughter's behavior was worsening from week to week.

In Taffy's case, it seems that informal social support had little to do with her status as a *continuer-nonmover*. During this time, her friendships remained

constant, and her mother continued to provide overnight childcare when Taffy was at work. Her sister had begun helping with childcare also. Between Waves 2 and 3, she experienced a tragic event that contributed to other negative changes in her life. This case illustrates the precarious nature of stability in the lives of nonpartnered, low-income, rurally located mothers. Taffy was literally one mishap away from disaster. When such disastrous events occurred, her sources of informal social support were inadequate to cushion the fall.

The examples above effectively illustrate the unpredictability and precariousness of the lives of mothers who are poor, without partners, and rurally located. Attrition is an influential, albeit often ignored or minimized, issue in longitudinal research. Under the most favorable circumstances, researchers regularly ignore attrition altogether, or neglect to discuss how attrition might adversely affect a given study. Several researchers have addressed the phenomenon of attrition proactively, primarily by implementing specific strategies by which researchers might prevent attrition (Bates, 2004; Coen et al., 1996; Cotter et al., 2002; Ribisl et al., 1996; Scott et al., 2006; Siddiqui et al., 1996). Rather than analyzing attrition from a purely retrospective view, this study took the uncommon approach of analyzing qualitative data in search of predictive information. Moreover, the study used a sample of poor, rurally located, nonpartnered mothers who led markedly complex and changeable lives. Thus, it should not be surprising that the findings were inconclusive.

Attrition could have been related to any number of changes in the circumstances of participants' lives. We do not know if, or how, the lives of

attriters in this study changed after Wave 1. Nor do we know whether changes or maintenance of the status quo contributed to their attrition. For example, it is possible that mothers dropped out of the study because their situations worsened significantly, forcing them into homelessness, or causing them to lose phone service. At the positive end of the continuum, mothers may have obtained employment elsewhere and relocated with the help of informal social support. They may be too busy to remain involved. So, although attrition was, in one respect, a common outcome, the life outcomes associated with attrition may have differed drastically among these mothers.

In the following sections, I identify limitations of the original Rural Families Speak study and of the present study. I also discuss contributions and offer suggestions for future research. Perhaps the most useful lessons learned speak to the relationship between data and theoretical framework.

Limitations

All studies have strengths and limitations; this one is no exception. I acknowledge that my experiences may have created bias. I worked for several years as a counselor with women similar to the women in the sample used in this study, primarily nonpartnered mothers who lived in cities of under 55,000 people or in rural areas up to 30 miles from the nearest formal social services, and who were welfare recipients. It is possible that through my work with these women, I developed perspectives predisposing me to make assumptions about what I would find in this study. With this possibility in mind, I took measures to guard against bias and to enhance the integrity of this study. For example, I randomly

generated the cases comprising each group, and I coded and analyzed interview transcripts without knowing to which group each transcript belonged. I also continuously engaged in "critical self-reflection" (Bloomberg & Volpe, 2008, p. 41). Specifically, I found myself struggling with the fact that I did not find clear links between informal social support and attrition or mobility. I frequently reminded myself to base ad hoc attempts at prediction in my theoretical framework rather than haphazardly pursuing proverbial "bunny trails" in frantic, careless attempts to find something. I believe my work experience with a similar population and my incredulity regarding their decisions to remain in place pushed me to search for explanations to resolve my own astonishment at their choices. Because of being driven by my strong internal motivation, I obtained guidance in exercising discernment about when to halt my efforts to connect informal social support with attrition and mobility.

Limitations of the original Rural Families Speak project and the current project fall into several overarching categories. First, I note that external factors such as state policies might have compromised the original study's findings. Second, I explore methodological shortcomings of both the original and the current study. Third, I address the challenges of coding when using existing datasets. Fourth, I note the importance of including the role of fathers when studying female-headed households. Finally, I discuss the value of including demographic data when analyzing qualitative data.

External factors.

The original Rural Families Speak study was conducted across several states with different personnel involved in recruitment and data collection. The fact that data collection was carried out in numerous states might have enhanced researchers' ability to identify commonalities among poor families living in rural locations around the nation (Bauer, 2004). Nonetheless, economic conditions and implementation of welfare policies may have differed considerably across states, making it impossible to apply findings at the national level.

Methodological drawbacks.

Other shortcomings of the original study are primarily methodological in nature. These limitations may have compromised my ability to predict attrition in the current study. First, I excluded two states because they did not adhere to the study's rurality guidelines when recruiting participants. Neither California nor Massachusetts adhered to the rurality parameters set forth in the study. Failure to hold fast to the rurality expectations may have biased the findings of the original study. Lack of fidelity reduced the pool from which I identified subjects for the current study.

Second, it is unclear how much training of interviewers occurred from state to state. Principal Investigators and some interviewers at each study location received identical qualitative interview training via conference calls. Not all interviewers had been hired at the time the training was conducted. Those hired later were trained either by the local Principal Investigators or other staff members. In the context of a multistate study, offering the training "once removed" was practical and necessary at one level. An unintended consequence,

however, was that it became impossible to know whether all training received was in fact comparable. As a result of these circumstances, some interviews are far richer than others, limiting the quantity and quality of data available from some geographic areas.

Third, no universal record keeping protocols were established. Information is inconsistent across and within states about the number of attempts researchers made to contact respondents for subsequent waves of data collection. In some cases, researchers indicated the number of attempts they made to contact participants. In other cases, no such information was provided. A similar inconsistency can be found regarding the reasons respondents could not be located after Wave 1. In some cases, researchers stated simply that the participant could not be located. In other cases, interviewers were able to obtain information that the participant had in fact moved. In some cases, records showed that the participant's phone had been disconnected or the number changed without further information on how to contact the individual. Also unclear is how many participants provided, at Wave 1, the requested three contacts who would always know how to locate them. Those records were available only to the research teams in each state. It is also not known whether the researchers, at Wave 2, attempted to connect with any of the individuals named by the respondent as contacts.

Fourth, incentives for participation varied from state to state. Some states offered gift cards. Other states provided participants with framed family portraits. Still other states gave school supplies to the children of participating families.

Dollar equivalents of incentives likely ranged from $15.00 to $50.00 (Richards, personal communication, August 31, 2011). Of course, there is no way to know the nonmonetary value each incentive carried for the participants. One participant might have preferred to receive a family portrait rather than a gift card, even if the dollar value of the latter incentive was greater. One could reasonably contend that the more value a participant assigned to a particular incentive, the more likely she would have been to seek access to that incentive by continuing in the study.

Even if incentives had been identical across states, differences in state policies and local resources affecting low-income families might have resulted in that incentive being valued differently across states. For example, in a state that readily provided school supplies to all needy families, receiving school supplies as an incentive to stay involved in the Rural Families Speak study would likely have been less enticing than the same incentive in a state not providing school supplies. To further complicate matters, there was no documentation of which states provided which incentives, or which families received which incentives. Thus, there was no way for me to address any potential relationship between incentives and attrition.

In the final analysis, we cannot know with certainty whether methodological issues, including a lack of persistence on the part of research team members and a lack of fidelity to the study's original protocol, exacerbated attrition. It is apparent, however, that any or all of these methodological issues

may have compromised my ability to predict attrition with a high level of accuracy.

Use of existing datasets and coding.

There are inherent limitations in using existing datasets, particularly when using qualitative data. In this case, the data consisted of interview transcripts. I was not present when the interviews were conducted and, therefore, had no first-hand impression of the mothers' environments or nonverbal communication to aid in analyzing the interviews. Finally, because I did not have access to recordings of the interviews, I was unable to detect vocal intonations that might have revealed emotional charges. For example, the hypothetical statement, "Yeah, my mom is great." could be interpreted differently based on vocal intonation. One tone could convey a heartfelt, genuine appreciation of one's mother. Another tone could express sarcasm, communicating a meaning opposite of the actual words being said. Having no access to this type of information may have limited my ability to accurately assign valences to mothers' descriptions of family members and friends and the quality of their relationships with family members and friends.

In accordance with a qualitative approach, each time I obtained more information through my attempts to link informal social support with attrition and mobility, I re-evaluated my efforts and discoveries to that point. After I designed and completed the study, I was struck by insight that led me to identify two noteworthy weaknesses in this study.

Role of fathers.

First, as I provided more detail about Adeline in my discussion, I realized I had not examined the role her estranged husband played in Adeline's life and in the lives her children. This awareness led me to recognize that I did not include fathers' roles when I examined informal social support in my initial analysis. I focused on people who explicitly and actively provided informal social support, and on weighing the benefits to nonpartnered, poor mothers of receiving that support against the costs of accepting it (descriptions of family members and friends and the quality of their relationships with them). Thus, I excluded people such as estranged partners and former spouses who provided no informal social support. Mothers in this study may have viewed the presence of these men as costly in and of itself. Had I deliberately incorporated such people in my analysis, I may have predicted mothers' group membership differently.

Demographic data.

Perhaps the greatest limitation in this study, was the failure to take into account demographic information such as mother's age and level of educational attainment. A mixed methods approach would have allowed me to take such factors into account before embarking on the qualitative analysis. After completing the qualitative analysis, I found that education was significantly related to mothers' status as an *attriter*, *continuer-mover*, or *continuer-nonmover*. A*ttriters* differed significantly from *continuer-nonmovers* with respect to level of educational attainment ($F = 4.54$, $p < .05$). *Continuer-nonmovers* had reached a significantly higher level of education at Wave 1 as compared to *attriters*. Differences in levels of educational attainment between *continuer-movers* and

attriters and between *continuer-movers* and *continuer-nonmovers* were not significant. There was also a significant difference between *attriters* and *continuer-nonmovers* with respect to age ($F = 4.66$, $p < .05$). *Continuer-nonmovers* were significantly older than *attriters*. Again, no significant differences were found between *attriters* and *continuer-movers*, or between *continuer-movers* and *continuer-nonmovers* with respect to age. Statistical results tables are included in the Appendix.

After finding that *attriters* and *continuer-nonmovers* differed significantly with respect to age and education, I explored whether either one or both of these demographic characteristics had predictive value. I chose multinomial logistic regression because I used two independent variables (age and education) to predict the outcome for one categorical dependent variable (group membership – *attriter*, *continuer-mover*, or *continuer-nonmover*). Because I had already found significant differences in means only between *attriters* and *continuer-nonmovers* using ANOVA, I used *attriters* as the base outcome for the multinomial logistic regression. This strategy allowed me to compare *attriters* with both *continuer-movers* and with *continuer-nonmovers*.

Both education and age had significant value in predicting whether mothers in this study would be *attriters* or *continuer-nonmovers*. The statistical results table can be found in the Appendix. For every categorical increase in education, the chances that participants would be *continuer-nonmovers* rather than *attriters* increased by 79% (LR $\chi^2(4) = 13.91$, prob > $\chi^2 = 0.0076$, $p < .01$). Categories of educational level were as follows: 8th grade or less; some high

school; high school diploma or GED; specialized technical, business or vocational training after high school; some college – including an associate's degree; college or university graduate; one or more years beyond college; and graduate degree. In this study, all participants had more than an 8th grade education and no participants had education beyond a 4-year college degree.

Education may be related to attrition in the following ways. It is possible mothers who are more educated have a fuller understanding than less educated mothers about ways in which their continued involvement in a longitudinal study can be useful. A better sense of their role in the research project may lead mothers to decide that the rewards outweigh the costs of continued participation. Further, those with lower levels of education may be more likely to work more than one job because of their ability to obtain only low wage employment. With high demands on their time, they may decide that fitting one more activity, such as research participation, into their schedules incurs too high a cost. Given the multiple responsibilities these mothers already juggle, those who cannot see how they benefit directly from participating in a study may be more likely to drop out. It may be especially difficult for these mothers to schedule a mutually agreeable time to meet with a researcher. Finally, they might doubt the inherent value of their contributions; they might suspect that others will pay no attention to their responses, much less value them.

For each year increase in age, the chances that mothers would be *continuer-nonmovers* rather than *attriters* increased by 12.7% (LR χ^2 (4) = 13.91, Prob > χ^2 = 0.0076, $p < .01$). It is possible that mothers of different ages

in this sample would have solicited and/or utilized informal social support differently. Further, based on age, mothers may have described family members, friends, and the quality of their relationships with these people differently. A younger mother may have been less appreciative than an older mother of the informal social support rendered by her family members because the younger mother may have been at a developmental stage in which she still expected to be taken care of by her parents. An older mother may have experienced more ambivalence about receiving informal social support from her family. On the one hand, she may deeply value the help provided. On the other hand, she may feel as though she must pay too high a price for that help. The cost might come in the form of worrying about an older family member's health, feeling ashamed that she needs the help if such exchanges occur outside the norm of her social network, or struggling with her relatives because of differences in parenting styles.

Strengths and Contributions

Despite the limitations described above, both this study and the original Rural Families Speak study have strengths. The original study was groundbreaking in that it undertook to collect simultaneously the same data across multiple states. Rural Families Speak also appropriately applied methodological approaches that could be considered disadvantageous in certain contexts. The current study has the potential to contribute to the literature on attrition from a longitudinal study among poor, rurally located, nonpartnered mothers. The current study provides a test of the applicability of social exchange

theory. Finally, the current study points to the necessity of using sound and consistent methodological tactics to minimize attrition.

Methodological strengths.

Several strategies sometimes thought to compromise the quality of research projects were used to positive effect in the original Rural Families Speak study. It is appropriate that the Rural Families Speak participants were not randomly selected because researchers were interested specifically in how welfare reform was affecting low-income and poor families in rural settings. It was essential that researchers identify participants who reflected the characteristics of the population in which they were interested. Participants were purposively recruited through agencies already serving low-income and poor people, and snowball sampling was used to recruit additional participants. Although use of these strategies means the findings from the study may not apply to other groups of low-income or poor people, using these techniques enabled researchers to minimize mistrust among participants. Furthermore, potential participants self-selected during the initial recruitment phase. Even though volunteers may have differed from those who did not volunteer, one could reasonably argue that volunteers were more forthcoming participants than nonvolunteers would have been. Hence, they might have provided more detailed information than nonvolunteers would have provided. The attrition rate may have been higher had the study not sought voluntary participants.

As mentioned previously, I took specific measures to minimize the potential for bias in coding and analysis in this study. I randomly selected

continuers, *attriters,* and *continuer-movers* for analysis. Doing so allowed me the advantages associated with purposive sampling along with the benefits of random assignment. I knew I had an overall sample that reflected the population in which I was interested. I also had confidence that differences between my selected groups would be random. Further, I analyzed each transcript without being aware if it belonged to an *attriter*, a *continuer-mover*, or a *continuer-nonmover*. Thus I was able to minimize bias that may have surfaced had I known from the outset the group to which each mother belonged. Taking these steps to minimize bias permitted me to have greater confidence in the trustworthiness of my findings.

Applicability of theoretical framework.

Although this study did not support a link between informal social support and attrition or mobility among poor, rurally-located, nonpartnered mothers, it proved to be a telling applied test of exchange theory. Even the affect theory of social exchange finds its roots in economic, mathematical paradigms. Partly because of the theory's underpinnings, I was tempted to quantify the qualitative data. For example, I assigned numerical valences to comments mothers made about family members and friends and the quality of their relationships with them.

Exchange theory may be ill suited to understanding the lives of poor, nonpartnered, rurally located mothers. In mothers' relationships with family members, one could conclude that daily exchanges occur in the context of long-term relationships. Generalized exchanges take place over time, in the context of lasting, trusting relationships (Scanzoni, 1979). In theory, these relationships

allow for greater flexibility with respect to reciprocity. Parties do not expect immediate reciprocation; they trust that over time the other party will give in return. In this study, however, that pattern could not be consistently identified. It appeared that for some mothers in this study, the norm of reciprocity was in itself a cost of receiving informal social support. Reflecting findings that women who were unable to reciprocate found ways to justify their inability to do so, mothers in this study may have come to characterize reciprocity as a cost they could not afford (Nelson, 2000). Perhaps the magnitude and urgency of their needs prevented mothers from patiently trusting in a long-term process with family members. Instead, they focused on what they perceived as immediate costs. For example, rather than viewing driving an elderly relative around on her day off as reciprocating for unlimited use of the grandmother's vehicle at other times, a poor, nonpartnered, rurally located mother may feel imposed upon in the short-term.

Although the affect theory of social exchange does expand upon classical social exchange theory by deliberately and explicitly including human emotional responses, the theory fails to explicitly incorporate the larger contexts in which people function. We are complex, social creatures. Using a more contextual theoretical framework, such as Bronfenbrenner's Ecological Model, could prove instrumental in studying informal social support among rurally located, poor, nonpartnered mothers. Such an approach would encourage researchers to examine more closely the interfaces of participants' nearest environments and the larger systems within which their daily lives take place (Bronfenbrenner,

1993). Combining disparate theoretical frameworks could yield more success in linking informal social support with attrition and mobility.

Methodology and attrition.

Moreover, this study makes the case for a mixed methods approach to studying informal social support's connection with attrition. I realized after I completed qualitative analyses that demographic characteristics such as age and level of educational attainment of mothers were likely to be related to whether mothers were *attriters*, *continuer-movers*, or *continuer-nonmovers*. Finding statistically significant differences between *attriters* and *continuer-nonmovers* with respect to education and age led me to conclude that even in a population inherently at risk for attrition, differences in education and age influence attrition. It is also reasonable to assume that mothers with different levels of educational attainment and of different ages seek out and make use of informal social support, and interpret the costs and benefits of social support, differently from one another. If I had identified in advance and then incorporated demographic characteristics of my study's sample into my qualitative analysis, I may have interpreted the qualitative data differently, perhaps allowing me to make more accurate predictions about attrition and mobility based on informal social support.

Maximizing the ability to minimize or predict attrition.

The fact that I did not meet with success in using poor, nonpartnered, rurally located mothers' experiences of informal social support to predict attrition and mobility, despite numerous attempts, confirms that attrition is difficult to understand, much less predict. Attrition is a complication inherent in longitudinal

research. One obvious solution to experiencing the monetary and scientific losses due to attrition is to prevent attrition.

Researchers have identified several strategies that proved useful in minimizing attrition. Maintaining frequent contact with study participants between data collection times, providing meticulous training of staff, and maintaining and passing along detailed records of previous attempts to contact participants have been shown to be useful in reducing attrition (Coen, Patrick, & Shern, 1996; Ribisl, Walton, Mowbray, Luke, Davidson, & Bootmiller, 1996; Scott, Sonis, Creamer, & Dennis, 2006). Although these efforts are time and labor intensive, investments made early on could prove invaluable.

Based on the usefulness of the data in Waves 2 and 3 transcripts of *continuer-movers* and *continuer-nonmovers*, I suggest that researchers take an alternative approach to preventing attrition: interview continuers (Ribisl et al., 1996). I was able glean information from these transcripts that improved my understanding of why my predictions had been inaccurate. Find out why continuers stay in a study and whether any specific measures taken by researchers between waves of data collection encouraged their continued involvement. One could reasonably conclude that *attriters*' reasons for leaving a study would stand in contrast to *continuers*' reasons for staying. Researchers could ask participants at Wave 1 what obstacles, if any, they could foresee interfering with their continued involvement in the study. Because of the complex, unpredictable, often chaotic nature of the lives of rurally located, poor, nonpartnered mothers, researchers may find it challenging to obtain such

detailed information in an effort to avoid attrition. It is precisely because this population is prone to attrition that learning more about participants who overcome the odds and remain in a study for numerous waves of data collection might prove useful.

Further, because programs established to meet the needs of poor, nonpartnered rurally located mothers are often costly, clues about how to prevent attrition from longitudinal studies could prove instrumental in designing programs with higher retention rates. Improved retention and completion rates in such programs could ultimately result not only in more efficacious investments for governmental and other agencies, but also in enhanced life circumstances for nonpartnered, poor rurally located mothers.

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Appendix

Table 1A:

Mean Differences in Education Across Attriters, Continuer-Movers and Continuer Nonmovers (N = 45)

	Σ of squares	*df*	m^2	*F*	*p*
Between groups	12.3111111	2	6.15555556	4.54*	0.0164
Within groups	56.9333333	42	1.35555556		
Total	69.2444444	44	1.57373737		

* $p < .05$.

Table 2A:

Mean Differences in Age Across Attriters, Continuer-Movers and Continuer-Nonmovers (N = 45)

	Σ of squares	*df*	m^2	*F*	*p*
Between groups	555.244444	2	6277.622222	4.66*	0.0149
Within groups	2501.86667	42	59.568254		
Total	3057.11111	44	69.479798		

* $p < .05$.

Table 3A:

Education and Age As Predictors of Outcome

Multinomial Logistic Regression — Number of obs = 45

LR $(\chi^2)4$ = 13.91

Prob > χ^2 = 0.0076

Log likelihood = -42.482278 — Pseudo R^2 = 0.1407

Outcome	Coeff	Standard error	*Z*	*P*>|*z*|	95% confidence interval	
Continuer-movers						
S_edu1	.2172674	.3379098	0.64	0.520	[-.4450236	.8795585]
S_age1	.0711414	.0536942	1.32	0.185	[-.0340974	.1763802]
constant	-2.81131	1.712125	-1.64	0.101	[-6.167013	.5443926]
Continuer-nonmovers						
S_edu1	.7961387	.3934876	2.02*	0.043	[.0249171	1.56736]
S_age1	.1276495	.0597358	2.14*	0.033	[.0105695	.2447295]
constant	-7.045218	2.39785	-2.94	0.003	-11.74492	-2.345519

Note. Attriters are base outcome.

*$p < .05$