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by

Elizabeth Ann Wieling

A dissertation submitted to the graduate faculty in partial fulfillment of the requirements of the degree of DOCTOR OF PHILOSOPHY

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Major Professors: Mary Winter and Harvey Joanning

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1997
This is to certify that the doctoral dissertation of
Elizabeth Ann Wieling
has met the dissertation requirements of
Iowa State University

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For/the Graduate College
To my parents, Edwin and Maria Wieling
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CHAPTER 1. GENERAL INTRODUCTION

The purpose of this study is to investigate issues related to the attainment of formal education among children in Oaxaca de Juárez, Mexico, in two studies conducted with Oaxacan families. The first study is a quantitative analysis of 1987 and 1992 data sets of children born between the years of 1966 and 1977. Two cross-sectional parallel analyses were conducted. The first analysis examines family and child characteristics that predict whether children are enrolled in school in both time periods; the second focuses on family and child characteristics that affect educational attainment. The second study is a qualitative analysis of the retrospective assessments of families regarding the education of their children, including how they view the relationship between the benefits of education and the costs and personal sacrifices made to achieve that education. Ethnographic interviews were conducted with 11 Oaxacan families in January of 1997.

Importance of the Study

Three theoretical frameworks directly address the implications of education for the family and for the greater society. First, it is asserted by human capital theory that
the most important source of growth and development for one's family and country is educated people (Shultz, 1971; Bryant, 1995). Therefore, families should make every effort to invest in the education of their children. A second perspective, modernization theory, complements the human capital argument by suggesting that families in the developing world must produce an educated population to support technological and industrialized societies that are "modernizing" by following a capitalist development model (Weber, 1971; Webster, 1993).

Lastly, the household survival strategies perspective offers what appears to be a more realistic picture of the types of decisions poor families make to survive in which education often becomes an unattainable luxury. The household survival strategies of poor families regularly include increasing the number of productive workers by placing children in the labor market early (Hackenberg, Murphy, & Selby, 1984; Murphy & Selby, 1985; Murphy & Stepick, 1991). Therefore, many children do not have access to formal education because they are recruited by their families to participate in the labor force. These competing perspectives will be evaluated in this dissertation against the reported findings of the two studies regarding
educational attainment of children and family decision-making processes about that education.

The demands for an educated population in the developing world are made at two primary levels: the private level and the public level (Gould, 1993). The importance families place on the education of their children despite the levels of poverty merits greater understanding. A current phenomenon that can be observed in families living in small towns and villages or in overcrowded urban centers all across the world are the many sacrifices families are making to keep at least some of their children in school. The families are hoping that education will provide their children with a means for securing a better future; therefore, any sacrifice is worthwhile. In the same manner, the future of many developing countries also lies in the level of educational attainment of their youth, as education is a precondition for development (Gould, 1993).

Although formal education has been largely a creation of the colonizing powers in the developing world, the rapid growth of school enrollments at all educational levels in almost all of the developing world in the last 30 years suggests that the popular demand for schooling is global (Gould, 1993). In a recent study conducted by the United
Nations Children’s Fund (UNICEF) (1997), when working children in Bangladesh were asked if they wanted to go to school, the vast majority reported that they wanted to attend school and had clear ideas about the value of education. The private demand for education can vary considerably from country to country, however. The demand for education is strong in the Newly Developing Countries of East and South-east Asia, where technological progress and an expanding labor market for skilled workers propel the private demand for education (Thomas & Postlethwaite, 1983).

Throughout the developing world, as well as in the developed world, an individual’s level of educational attainment is a primary factor in dictating one’s lifestyle, career opportunities and life chances. The rich who have job security and a high “quality of life” are mostly those with some education. Those who are poverty-stricken, with low paying and insecure jobs, poor housing conditions and precarious health, are often those with little or no education (Gould, 1993). Using cost/benefit models, many studies (Heyneman, 1980; Thias & Carnoy, 1972; Singh, 1992; & Psacharopoulos, 1981) in a wide range of countries have shown that there is a strong and positive correlation between lifetime earnings and level of education. The
measurable benefits of earnings outweigh the costs by a large margin.

The rates of return to the family for investing in primary education are typically between 15% and 50% depending on the country. Educational costs are lower at the primary level, whereas the benefits are substantial. At the secondary level, where direct costs are higher and forgone employment earnings are more likely, annual rates of return are lower. Typically the rates of return at the secondary level are anywhere between 10% and 30% depending on the country.

Psacharopoulos (1994) provides a global review on private rates of return to education in developing countries and reports that education is a highly productive private investment. It is more productive than most forms of investment families can make: "for the individual student or family, education is usually a highly profitable personal investment. The expected benefits more than compensate for the burden of high costs, including earnings forgone" (Psacharopoulos & Woodall, 1985, p.119). This finding has its share of critics however who question the methods by which such conclusions were reached, they assert that
returns from investments made in education have substantially decreased (Gould, 1993).

Moreover, education also has an important social function. It is a primary mechanism for upward social mobility through its links to employment and job status. Education incorporates cultural values and behavior that make individuals more socially acceptable by the elite, which are a key feature of most developing societies (Gould, 1993). In the political arena, education commands respect. The uneducated politician has little claim to national political office, though education is only one of many necessary attributes for success (Gould, 1993). Education, then, provides the individual with economic, social, and political advantages.

This discussion of education in the developing world is important because it provides a context for understanding the constraints as well as the opportunities that are associated with educational attainment in those countries. Educational issues in Oaxaca de Juárez will likely reveal similar characteristics to those discussed.
Dissertation Organization

This dissertation is a collection of two complete papers. Each paper focuses on an aspect of the educational attainment of children in Oaxaca de Juárez, Mexico. In the first paper, data from a panel of 271 individuals born between 1966 and 1976 are analyzed. Information was available for all panel members in 1987 and 1992. Logistic regression equations are used to predict school enrollment in both 1987 and 1992; Ordinary Least Squares regressions are used to predict family and child characteristics that affect level of educational attainment of children at four educational levels.

The second paper is a qualitative analysis of ethnographic interviews conducted with 11 families in 1997 that focused on the families' experiences of educating their children and their decisions regarding children's education. Ultimately, for those families who kept their children in school, the question is whether they view their sacrifices as having paid off in the long-run. For those families who did not continue to educate their children, the issue is the implications of that decision for the children and the family.
These two studies contribute to the body of literature that addresses the formal education of children in developing countries and highlights the cultural meaning some families in Oaxaca attribute to the education of their children. The relationship between the two studies is summarized in chapter 4 and their implications for therapy are discussed.

References


CHAPTER 2: DETERMINANTS OF EDUCATIONAL ATTAINMENT FOR CHILDREN IN OAXACA DE JUÁREZ, MEXICO: 1987 AND 1992¹

A paper submitted to the Journal of Marriage and the Family

Elizabeth Wieling², Mary Winter³, Earl W. Morris⁴, and Arthur D. Murphy⁵

Abstract

The purpose of this study is to assess family and child characteristics that predict school enrollment and educational attainment of 271 children in Oaxaca de Juárez, Mexico, at two different points in time, 1987 and 1992. Logistic regression equations are used to ascertain the

¹Data for this study are from two projects, "A Decade of Change in Oaxaca, 1977-1987, and "Households in Oaxaca and Mexico's Crisis," both funded by the National Science Foundation.

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family and child characteristics that predict the child's presence or absence of school enrollment in 1987 and 1992. Linear regressions analyze the predictors of children's educational attainment at: (1) the primary level (1st - 6th grade), (2) secondary (7th - 8th grade) and high school levels (9th - 12th grade), and (3) university level. Significant predictors of school enrollment both in 1987 and 1992 are the number of workers in the household, and whether the child is working. Significant predictors of level of educational attainment both in 1987 and in 1992 are the number of workers in the household, household income, and the age of the child. These findings are interpreted and discussed in the context of Mexico's macroeconomic, social, and political systems.

As families in many developing countries find strategies to adjust to rapid globalization and capitalist development, formal education has emerged as one of the most promising mechanisms used to bridge the gap between traditional and modern societies and economies. The purpose of this study is to investigate factors affecting formal educational attainment for children in Oaxaca de Juárez, Mexico. The study is a quantitative analysis of the family and child characteristics that predict whether children are enrolled
in school in 1987 and in 1992 and family and child characteristics that affect the level of educational attainment of children at four levels: (1) primary (1st - 6th grade), secondary (7th - 8th grade) and high school (9th - 12th grade), and (3) university education.

The Setting for the study

The State of Oaxaca is located in the south of Mexico and has a population of approximately 3.2 million people (INEGI, 1996). Almost 1 million people belong to 14 different indigenous groups who each speak a different language (INEGI, 1996). The four largest indigenous groups in the state are the Zapotecs, the Mixtecs, the Mazatecs, and the Mixes. The State of Oaxaca is divided into 8 regions and 570 municipios (districts) with differing populations and levels of social, economic, and political influence. Oaxaca is currently the second poorest state in Mexico.

Oaxaca de Juárez, the capital, is located in a valley surrounded on all sides by steep mountains (Murphy, 1991). Its isolated position has made it difficult for Oaxaca to host industrial development. Instead, this beautiful colonial city has developed a tourism market and has become known for its painted animals, black pottery, and woolen handicrafts. The setting is ideal for this study because it
provides an example of a city in which, despite its problems of absorbing an educated population, families are making extraordinary efforts to educate their children.

Importance of the Study

According to both the Universal Declaration of Human Rights (Article 26) and the United Nations Convention on the Rights of the Child, which has been adopted by 189 State Parties but not the United States, Somalia, Switzerland, and the Cook Islands, all children should have the right to receive a formal education. The percentage of children who have access to formal education, particularly in developing countries, is limited, however. The reasons why many children do not receive at least a primary education are complex and vary from one country to another. In most cases, poverty at both the private and public levels is the greatest impediment to educational attainment. Some of the manifestations of poverty are seen in the number of children who are forced to enter the labor force (many times under dangerous and exploitative conditions), the poor quality and lack of availability of educational institutions, the low status of school teachers (who are often ill prepared), and the high costs associated with formal education.
Another impediment to educational attainment is that often formal education is not relevant to the needs of poor children and their families. In fact, the 1990 World Congress on Education emphasized the need for diverse and flexible approaches toward education. Their recommendations for countries to achieve quality education for all are: (1) to teach useful skills; (2) to be more flexible; (3) to get girls into school; (4) to raise the quality and status of teachers; and (5) to cut the family’s school bill (UNICEF, 1997).

Although education is accepted as a basic human right of children in most societies, the educational attainment of girls continues to be much lower than that of boys. Women still comprise two-thirds of people who cannot read or write. It is estimated that there are currently in excess of 600 million illiterate women (UNICEF, 1997). Clearly, the cultural values attributed to the attainment of formal education play a key role in determining who receives an education. In addition, indigenous and minority populations worldwide have more difficulties enrolling in and graduating from school.

Despite the fact that sending children to school may be counterproductive for the poor (Hackenberg, Murphy, & Selby,
1984; Murphy & Selby, 1985; Murphy & Stepick, 1991), some families are making extraordinary efforts to educate their children. In this study, family and child characteristics that predict school enrollment and educational attainment of children are examined to add to the body of literature addressing educational issues in developing countries.

Theoretical Framework

Many economists contend that the most important source of growth and development for one’s country is educated human capital (Lorey, 1995). The core idea in human capital theory proposes that economic growth is closely linked to a nation’s investment in education, health, job training, internal migration, and organized research (Schultz, 1971). Furthermore, Schultz (1971) contends that it is not possible to have modern capitalist development without making large investments in human beings. “Without it [human capital] there would be only hard, manual work and poverty, except for those who have income and property” (p. 47).

A focus of this study is the analysis of investments in education as a form of developing human capital. Education can be thought of as both a consumption activity, whereby the individual benefits directly, and as an investment
activity, which aims at capitalizing on future earnings of the person as a productive agent (Shultz, 1971). A major reason individuals invest in human capital through formal education is to enhance their opportunities for higher income in the future, thereby increasing their total wealth (Bryant, 1995).

Another perspective that has helped family scientists understand the mechanisms by which family decision-making is conducted with respect to human capital investments is the household survival strategies literature. Studies of household survival strategies (Hackenberg et al., 1984; Murphy & Selby, 1985; Murphy & Stepick, 1991; González de la Rocha & Latapi, 1991) of the marginal and poor show that the survival of the household often depends on a large household. The number of persons generating income becomes the key factor for household survival independent of whether the income comes from the formal or informal economic sector and regardless of how meager the financial contribution may be. Therefore, the manner in which households organize themselves becomes important.

In a study of household survival strategies under dependent development in Oaxaca de Juárez, Mexico, and Davao City, Philippines, Hackenberg et al. (1984), found that
struggling families use two common strategies: (1) decreasing the number of unproductive workers by restricting fertility, giving up children for adoption or denying household membership to the elderly; or (2) increasing the number of productive workers by placing children into the labor market early, bringing adult members into the household, or keeping the elderly at work longer. The latter strategy, whereby fertility is not restricted and household expenditures are managed by increasing the number of workers, is most commonly employed in Oaxaca de Juárez (Hackenberg et al., 1984).

Family characteristics that predict whether children have a greater probability of being in school and achieving higher levels of educational attainment is the central focus of this study. On one hand, human capital theory suggests that both the family and the nation must invest in education and that the rewards are high, at least in the long run. On the other hand, the household survival strategies literature describes the harsh realities and decisions people make to survive. Education often does not stand out as a priority. In sum, the two frameworks described are competing theories, each making a different set of assumptions about the role of education for families. It is expected that, under the
human capital macroeconomic framework, which promises positive returns on investments for educating children, variables such as household income and parent's education would play a role in determining whether families invest in education. It is expected that variables playing a key role in determining educational attainment for children from a household survival strategies perspective would be household size, number of workers, and household income.

Review of Research

The literature on school attendance and performance is reviewed to select variables for inclusion in the analyses. Of particular interest are characteristics of the family and the child that predict educational attainment. Research hypotheses are developed based on the literature review.

*Education of the mother.* Maternal schooling has proven to be a key factor in a child's developmental process. Research has shown that the mother's level of educational attainment is highly related to reduced child mortality and fertility and increased child health (Uribe, LeVine, & LeVine, 1994; Gould, 1994; Greefield & Cocking, 1995). In addition, educated mothers have been found to be more responsive verbally to their infants, which initiates a
process of cognitive socialization that prepares children for formal education (Uribe et al., 1994; Laosa, 1978; LeVine, LeVine, Richman, Uribe, Correa, & Miller, 1991). Maternal education also has been found to be an important determinant of cognitive abilities of children and of children's school achievement (Laosa, 1977, 1980, 1982). Therefore, LeVine (1980) asserts that "women with formal schooling will show a greater tendency to prepare their children for participation in a new socioeconomic order found in the urban sectors of Third World societies" (p. S78).

Baker and Stevenson (1986) argue that mother's schooling is crucial in predicting her child's level of educational attainment because it is primarily the mother who is involved in the day-to-day school activities of the child. Second, educated mothers have greater experience and knowledge of the educational systems and what is needed for the child to succeed academically. Therefore, educated mothers become better managers of their children's educational careers.

*Household members and employment status.* The literature suggests that household size and number of workers in the household affect the educational attainment of children. A
decision was made to include only the number of workers in the household in this study because of the high multicollinearity between the two variables. Household size and number of workers are discussed together because the reasons for their importance in predicting educational attainment are similar.

As was highlighted in the household survival strategies literature, the number of productive household members is crucial for poor families. In fact, increasing the number of workers in the household is a common way of meeting household expenditure needs and a strategy that is often employed in Oaxaca (Hackenberg et al., 1984; Murphy & Selby, 1985; Murphy & Stepick, 1991; González de la Rocha & Latapi, 1991). In a study of the determinants of educational attainment for children in Oaxaca, Izquierdo (1994) found that household size and number of workers are negatively related to children’s education and are among the key factors in determining educational outcomes for children.

In a report addressing the status of children worldwide, the United Nation Children’s Fund (UNICEF) (1997) stated that children out of school are a cost and a cause of child labor. “Education and child labor interact profoundly as work can keep children away from school. At the same time,
poor quality of education often causes children to drop out of school and start working at an early age” (p. 48). In the developing world, one out of every four children between the ages of 5 to 14 is working. Approximately 23% of all children under the age of 14 are not attending school and 38% of all children under the age of 18 do not attend school in the developing world (UNICEF, 1997). Given the magnitude of the relationship between children’s work as part of the household unit and the implications for their education as discussed above, the variable child working is included in the regression analyses in this study.

Mexico’s economic history of relative instability has forced families to develop creative strategies to adapt to fluctuations in the currency, to in-country migration from rural to urban centers, and to high levels of unemployment and underemployment. Therefore, it is not surprising that, with high fertility rates, placing children into the labor force as a means for survival is commonly practiced by families. In a study of Chicano educational attainment, Gándara (1995), reported a more positive aspect of large families. Gándara found that, despite the evidence showing higher levels of academic achievement for children in smaller families, children from large families said that
siblings served as important role models and support systems for their academic pursuits.

Household income. The financial status of the family is highly related to the existing level of human capital already developed in any given household. As such, level of income is predictive of the financial resources families have that are available for children’s education along with parental occupation and education. Household income is one of the variables that indicates a family’s socioeconomic status (SES), and SES has been found to be one of the greatest predictors of children’s intellectual development and school attainment (Gottfried & Gottfried, 1984; Reese, Goldenberg, Loucky, & Gallimore, 1995; Psacharopoulos, 1987; Ryan, Adams, Gullotta, Weissberg, & Hampton, 1995; Lam, 1997). Likewise, in studies examining the educational status of children in Oaxaca, Izquierdo (1994) and Reyes (1993) found that income is an important predictor of educational attainment.

Sex Role Attitudes. Although the stereotypical vision of the Mexican woman is one of "marianismo," a self-sacrificing wife and mother who is totally immersed and devoted to her family while her spouse is free to do as he wishes, women in Mexico have a range of sex role attitudes that are
influenced by education, family background, and income, among others. In a study examining education and sex role attitudes in two rural communities in Costa Rica, Whiteford, Morris, and Whiteford (1986) found that education is positively related to sex role attitudes, which in turn affect women's attitudes towards childbearing. Similarly, women who have higher egalitarian sex role attitudes are likely to promote the educational attainment of their children because they have learned to value education and its benefits. Researchers examining the influence of sex role attitudes on education (Beere, 1983; Boudreau, 1986), found that more egalitarian attitudes toward the social roles of women and men also appear to signal educational and career aspirations, which have direct implications for the socialization and education of children.

Age of the child. Given that in Mexico as well as in most countries, education is compulsory at least through the age of 16, age of the child is highly related to early levels of educational attainment of children (UNICEF, 1997; Gould, 1994; Psacharopoulos, 1987). In Oaxaca, among children between the ages of 6 to 14 years old that registered in the 1990 Census, 82.4% can read and write,
which likely indicates some level of formal educational attainment.

*Gender of the child.* Girls and women comprise the highest levels of illiteracy and the lowest levels of educational attainment worldwide, and in developing countries in particular (UNICEF, 1997; Gould, 1994). Therefore, similar patterns are expected to be found in the Oaxacan sample. In fact, in a study conducted by INEGI (1995) on the status of children of Oaxaca, it was found that the ability to read and write and the probability of school enrollment for children between the ages of 11 to 14 (roughly 5th through 8th grade) is lower of girls than for boys.

**Hypotheses**

It is hypothesized that school enrollment in 1987 and 1992 is a function of its relationship with the following variables:

(1) The younger the mother, the greater the likelihood she will value education and will have her children enrolled in school in both 1987 and 1992.
(2) The higher the level of education of mother, the higher the probability that the child will be in school in both 1987 and 1992.

(3) The greater the number of workers in the household, the less likely the child is to be in school in 1987 and particularly in 1992 because the child will be older and more suitable for labor force participation.

(4) The larger the household income, the more likely the child is to be in school in 1987 and 1992. Particularly in 1992, it is hypothesized that income levels will have a positive and significant relationship with school enrollment given that children are more likely to be in upper-level grades where the costs of education typically are higher.

(5) The more egalitarian the mother is regarding sex role attitudes, the more likely she is to have her children enrolled in school in both 1987 and 1992.

(6) The younger the child, the more likely he/she is to be enrolled in school.

(7) Boys are more likely than girls to be enrolled in school in both 1987 and 1992.
(8) Working children are less likely than nonworking children to be enrolled in school in both 1987 and in 1992.

It is hypothesized that the level of educational attainment of children in 1987 and in 1992 is a function of the following variables:

(1) Younger mothers are more likely to have their children attain higher levels of education than older mothers.

(2) The higher the level of education of the mother, the greater the probability that the child will achieve high educational attainment.

(3) The greater the number of workers in the household, the less likely the child is to achieve higher educational attainment.

(4) The higher the household income, the more likely the child is to achieve higher educational attainment.

(5) The more egalitarian the mother is regarding sex role attitudes, the more likely her children are to achieve higher levels of educational attainment.

(6) The older the child, the more likely he/she is to have attained higher levels of education.

(7) Boys are more likely than girls to achieve higher levels of education.
(8) Working children have a lower probability of attaining higher levels of education than nonworking children.

Methods

The Data and the Sample

The data for the analyses are from two different studies. In the first, "A Decade of Change in Oaxaca, 1977-1987," funded by the National Science Foundation, 607 households selected through a two-stage cluster sample of the city were interviewed by trained Mexican interviewers (see Winter, 1992, for details of sample). Data from the second study, "Households in Oaxaca and Mexico's Crisis," also funded by the National Science Foundation, were gathered by Mexican interviewers who returned to the 1987 addresses and interviewed the 478 resident households during the spring of 1992. More than half (353) of the 1992 respondents had been interviewed previously. The remaining household respondents had moved to the address between 1987 and 1992. In both studies, interviews were conducted with the female household head, defined as the woman in a couple-headed household or a woman who is the sole household head. Included in the survey was detailed information about household composition, housing, employment status of all family members, household
expenditures, food purchases, interhousehold exchanges of goods and services, and a series of attitudinal questions.

For this study, all children born between the years of 1966 and 1977 who were the offspring of the principal woman in the household were selected. Two data sets were created with 1987 and 1992 child characteristics (birth date, school enrollment, health, marital status, employment status, and income). Those data sets were then matched to the family and household characteristics (education, age, employment, health, marital status, income, household size, number of workers, and sex role attitudes). The resulting 1987 child-family data set and 1992 child-family data set were then matched according to family identification number and gender and birth year of the child to ensure that the same child was used at both time periods. The final data set includes detailed information regarding the child's age, gender, years of schooling attained, health status, marital status, work status, and income. In addition, for each child there is information on their parents' age, education, health, marital status, work, income, and the sex role attitudes of the mother as well as family composition, number of workers in the household, and household size at two different points in time, 1987 and 1992. Two-hundred seventy-three cases met
the initial criteria. Two cases were removed from the data set because they were twins with exactly the same characteristics and therefore could not be matched across the two time periods with confidence, since variables on which they were to be matched were identical. One case was removed from the 1987 data because the child was not in school because he/she had already graduated from high school; and 35 cases were removed from the 1992 data for the same reason. If these children were left in the data they would bias the study because one cannot predict family characteristics related to school enrollment in 1987 and 1992 for children who are not in school for a good reason - they have graduated from 12th grade.

**Plan of the Analysis**

To assess changes in the patterns of educational attainment for children over time, two parallel cross-sectional analyses were conducted with the same sample and the same variables measured at two different points in time. First, logistic regression equations were completed for both 1987 and 1992 to assess the family and child characteristics that predict the child's school enrollment during that year. Second, four parallel linear regression analyses for different levels of educational attainment were run.
separately to predict the child's level of educational attainment: (1) for all 271 cases with ages ranging from 10-20 in 1987 and 15-25 in 1992; (2) for primary education, 102 children ages 12 years old or younger were selected in 1987; (3) for secondary and high school education, 162 and 171 children between the ages of 13 and 19 were selected in 1987 and 1992 respectively; and (4) for university education, 100 children 20 years and older were selected in 1992.

Limitations of the Sample and Analysis

The 271 individual cases used in this study come from a probability sample of households. Ideally, the sampling frame would have been composed of individuals rather than households. The data set on individuals includes all children born between 1966 and 1977. Another limitation of the sample is the inability to provide information about children who are not currently living in the same household with their parents. Older children may be either in school or working in another city, for example.

Only two-parent households or households where the woman was the head of the household were included in the sample, because women were the respondents to the interview schedule. The number of households headed by a single man that include school age children would be extremely small,
however. In addition, this sample captures a relatively stable segment of the population because, by definition, the family has not moved during the past five years.

Lastly, although the sample is a longitudinal panel, it was not analyzed longitudinally. A longitudinal analysis was initially run using change variables (marital status of mother, health of the mother, household size, number of workers, age of the child, and child working) as predictors of dropping out of school between 1987 and 1992. Because an increase in the number of workers in the household was the only variable that had a significant affect on whether children were no longer in school in 1992 and on their overall level of educational attainment, these longitudinal analyses are not reported in this paper because they do not contribute new information to what was found using the cross-sectional parallel analyses.

The Dependent Variables

The dependent variable for the logistic regressions are binary variables called school enrollment in 1987 and school enrollment in 1992, each coded 1 if the child was in school. As shown in Table 1, in 1987, 87.80% of the children in the sample were in school as compared to 53.50% in 1992. This decrease in school enrollment is to be expected given that,
in 1992, children were older and had either graduated or left school. The dependent variable for the linear regressions is level of educational attainment. This variable represents the number of years of schooling the child had attained by 1987 and by 1992. The mean years of educational attainment for children in 1987 was 7.88, which is equivalent to being in secondary school and in 1992, the mean was 10.65, which corresponds to being in high school (Table 2).

**The Independent Variables**

Although the literature on educational attainment stresses the importance of household size in predicting educational outcomes for children in developing countries, the variable was omitted from this study because of its high correlation with the number of workers in the household. Age of the mother was included in the regressions because it is a sociological variable that informs the researcher of the influence age and time have on the family trajectory through the life cycle and the decisions that are made along the way. Age of the father and his education were not used because of the high correlation between those variables and the corresponding characteristics of the mother. Researchers have emphasized the influence of the mother's
Table 1: Percentages for family variables for 1987 and 1992.

<table>
<thead>
<tr>
<th>Variables (n=271)</th>
<th>1987</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>52.00</td>
<td>52.00</td>
</tr>
<tr>
<td>In school</td>
<td>87.80</td>
<td>53.50</td>
</tr>
<tr>
<td>Working</td>
<td>8.85</td>
<td>33.95</td>
</tr>
<tr>
<td>In school</td>
<td>2.21</td>
<td>2.95</td>
</tr>
<tr>
<td>Not in school</td>
<td>6.64</td>
<td>31.00</td>
</tr>
</tbody>
</table>

education and IQ in child’s educational pursuits. Therefore, age and education of the mother were chosen to be used in this study.

Age of the mother is assessed as of January 1, 1987, or January 1, 1992, and is based on her year of birth. In 1987, the mean age of the mother was 41.59 and 46.46 in 1992. The slight increase of a five year difference in age may be due to different responses given by women when asked their year of birth.

Education of mother is the number of years of formal schooling completed. The mean level of education for the
Table 2: Means, standard deviations, and ranges for family variables for 1987 and 1992.

<table>
<thead>
<tr>
<th>Variables (n=271)</th>
<th>1987</th>
<th>1992&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>St. dev.</td>
</tr>
<tr>
<td>Age of the mother</td>
<td>41.59</td>
<td>.44</td>
</tr>
<tr>
<td>Education of the mother</td>
<td>5.06</td>
<td>.29</td>
</tr>
<tr>
<td>Number of workers in the household</td>
<td>2.07</td>
<td>1.04</td>
</tr>
<tr>
<td>Monthly household income (1987 Pesos)</td>
<td>160.94</td>
<td>5.06</td>
</tr>
<tr>
<td>Sex role attitudes&lt;sup&gt;a&lt;/sup&gt;</td>
<td>16.16</td>
<td>.19</td>
</tr>
<tr>
<td>Age of child</td>
<td>13.83</td>
<td>.16</td>
</tr>
<tr>
<td>Education of the child</td>
<td>7.88</td>
<td>.16</td>
</tr>
</tbody>
</table>

<sup>a</sup> Sex role attitudes: sum of five questions to which respondents could answer (1) strongly agree; (2) agree; (3) were indifferent to; (4) disagree; and (5) strongly disagree.

<sup>b</sup> The means on this table are based on 271 cases. However, the logistic regression for 1992 is based on 235 cases.
mother was 5.06 in 1987 and 5.80 in 1992 (Table 2). This corresponds to less than an primary level education. The increase in level of education in 1992 may be attributed to women returning to school.

Number of workers also is a continuous variable referring to the total number of persons in the household working for pay. The mean number of workers in 1987 was 2.07 and increased to 2.76 in 1992 (Table 2). It is likely that both parents were working and that some of the older children in the household had joined the labor force.

Household income refers to the monthly income in pesos of the household. The mean monthly income in 1987 was 160.94 pesos and increased to 199.09 pesos in 1992 (Table 2). The period between 1987 and 1992 was characterized by high inflation. Therefore, monthly income is expressed in 1987 pesos, achieved by using the equivalent of Mexico's Consumer Price Index to correct the 1992 figures to a base of 1987.

Sex role attitudes is the sum of responses to five different questions regarding the roles of men and women. The respondents (mothers) were asked if they strongly agreed (coded 1), agreed (coded 2), were indifferent to (coded 3), disagreed (coded 4), or strongly disagreed (coded 5) with each of the five statements. The statements were "The man
has the right to be the one who rules in the family and the women is obligated to obey him;" "In most cases of family life it is the man who should make the important decisions;" "There are certain types of jobs appropriate for men and others that are appropriate for women; one should not do the work that pertains to the other;" "It is perfectly all right that men go out by themselves whenever they want;" and "The man has more of a right to deceive his wife than she does to deceive him." Scores ranged from 5 to 25, with a mean of 16.16 in 1987; the mean increased to 17.01 in 1992 (Table 2). The higher the score, the more egalitarian the family is regarding sex role attitudes. The Cronbach alpha coefficient for the sex role attitudes variable was .68 in 1987 and .71 in 1992.

Age of child refers to how old the child was in 1987 and in 1992. The mean age of children in 1987 was 13.83 and in 1992, the mean was 18.83, as would be expected five years later (Table 2).

Gender is a binary variable coded 0 for females and 1 for males. This sample was 52.00% female and 48.00% male (Table 1).

Child working refers to whether the child is in the labor force. In 1987, 8.85% percent of the children were working
and in 1992, 33.95% of the children were working (Table 1). This increase in the number of children working was expected given that they are older in 1992 and many had graduated or left school.

Results

Zero-order correlations for 1987 (Table 3) and for 1992 (Table 4) do not show signs of high multicollinearity between pairs of predictor variables. Several independent variables are significantly correlated with dependent variables, indicating the strength of the relationships between the variables included in this study. For example, although age of the mother, education of the mother and sex role attitudes of the mother are not consistently significant in the regression equations, the Pearson correlations show significant relationships between these variables and the dependent variables.

The correlation between number of workers and the child working is high for both years (.37 in 1987 and .52 in 1992). This relationship is indicative of the fact that the additional workers in the household are often the children. As would be expected, there is a negative and significant correlation between age of the child and school enrollment.
Table 3: Correlation coefficients between all pairs of variables for 1987 (n=271).

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age of mother</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td></td>
<td>-.15^b</td>
<td>.32^b</td>
<td>.17^b</td>
<td>-.21^b</td>
<td>.38^b</td>
<td>-.12^a</td>
<td>.10</td>
<td>-.24^b</td>
<td>.23^b</td>
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<td>2. Education of mother</td>
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<tr>
<td></td>
<td>-.09</td>
<td>.39^b</td>
<td>.34^b</td>
<td>-.15^a</td>
<td>-.00</td>
<td>-.15^a</td>
<td>.24^b</td>
<td>.04</td>
<td></td>
</tr>
<tr>
<td>3. Number of workers</td>
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<tr>
<td></td>
<td>.33^b</td>
<td>-.23^b</td>
<td>.16^b</td>
<td>.08</td>
<td>.37^b</td>
<td>-.39^b</td>
<td>.01</td>
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<tr>
<td>4. Household income</td>
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<tr>
<td></td>
<td>.23^b</td>
<td>.09</td>
<td>.01</td>
<td>-.03</td>
<td>-.04</td>
<td>.19^b</td>
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<tr>
<td>5. Sex role attitudes</td>
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<tr>
<td></td>
<td>-.01</td>
<td>.03</td>
<td>.16^b</td>
<td>.21^b</td>
<td>.11</td>
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<tr>
<td>6. Age of child</td>
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<tr>
<td></td>
<td>.06</td>
<td>.27^b</td>
<td>-.34^b</td>
<td>.74^b</td>
<td></td>
<td></td>
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<tr>
<td>7. Gender of child</td>
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<tr>
<td></td>
<td>.16^b</td>
<td>-.02</td>
<td>.03</td>
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<tr>
<td>8. Child working</td>
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<tr>
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<td>-.59^b</td>
<td>.09</td>
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<td>9. 1987 school enrollment</td>
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<tr>
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<td>10. Years of education</td>
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</tr>
</tbody>
</table>

^a significant at the .05 level
^b significant at the .01 level
Table 4: Correlation coefficients between all pairs of variables for 1992 (n=271).

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age of mother</td>
<td>.00</td>
<td>.05</td>
<td>.13(^a)</td>
<td>-.14(^b)</td>
<td>.42(^b)</td>
<td>-.13(^a)</td>
<td>-.01</td>
<td>-.06</td>
<td>.20(^b)</td>
</tr>
<tr>
<td>2. Education of mother</td>
<td>-.30(^b)</td>
<td>.32(^b)</td>
<td>.37(^b)</td>
<td>-.06</td>
<td>.01</td>
<td>-.25(^b)</td>
<td>.29(^b)</td>
<td>.22(^b)</td>
<td></td>
</tr>
<tr>
<td>3. Number of workers</td>
<td>.23(^b)</td>
<td>-.36(^b)</td>
<td>.10</td>
<td>.10</td>
<td>.52(^b)</td>
<td>-.45(^b)</td>
<td>-.20(^b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Household income</td>
<td>.09</td>
<td>.05</td>
<td>.05</td>
<td>-.01</td>
<td>.08</td>
<td>.22(^b)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Sex role attitudes</td>
<td>-.13(^a)</td>
<td>-.02</td>
<td>-.32(^b)</td>
<td>.35(^b)</td>
<td>.17(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Age of child</td>
<td>.06</td>
<td>.20(^b)</td>
<td>-.25(^b)</td>
<td>.40(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Gender of child</td>
<td>.24(^b)</td>
<td>-.17(^b)</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Child working</td>
<td>-.62(^b)</td>
<td>-.23(^b)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>9. 1992 school enrollment</td>
<td>.35(^b)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>10. Years of education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) significant at the .05 level  
\(^b\) significant at the .01 level
in both years (-.34 in 1987 and -.24 in 1992), indicating that the younger the child is, the more likely he/she is enrolled in school. Also, there is a positive and significant correlation between age of the child and years of education in both years (.74 in 1987 and .40 in 1992), indicating that the older the child, the higher his/her level of educational attainment.

Lastly, there is a negative and significant relationship in 1992 between child working and school enrollment (-.62), indicating that if the child is working, the likelihood of him/her being in school is lower than if the child is not working. In 1992, child working and years of education also are positively related (.23), indicating that, if the child is not working, there is a greater the likelihood of him/her reaching higher levels of educational attainment.

Predictors of School Enrollment in 1987 and in 1992

Logistic regressions are appropriate for the analyses because the dependent variable in each analysis is dichotomous, indicating the presence or absence of a particular characteristic (DeMaris, 1995). Significant family predictors of whether the child is in school both in 1987 and 1992 are number of workers and child working (Table 5). It is not surprising that the number of workers in the
household is a negative and significant predictor of the child being in school in both years. This finding is consistent with the household survival strategies literature that suggests that the way to move out of poverty is to have as many people working as possible. Therefore, the higher the number of workers in the household, the more likely that the child belongs to one of those families that has either chosen or needed to take the child out of school and place him/her in the labor force.

Lastly, the significant inverse relationship of the child working variable with school enrollment means that, if the child is working in either year, he/she is less likely to be enrolled in school. In 1987, 8.85% percent of children were working in the labor force. Of the children working, only one quarter were also in school. In 1992, 33.95% of children were working in the labor force. Of the children working, less than 10% were also in school (Table 1).

In the 1987 analysis, the age of the child is inversely related to whether the child is enrolled in school, indicating that the older the child, the less likely he/she is to be in school that year. In 1992, household income is positive and significantly related to school enrollment. The costs of education tend to increase as children move on
to higher grades and the expenses associated with tuition fees and school supplies increase. Therefore, the probability of older children being enrolled in school is probably lower because school costs are higher in upper grades and children are better prepared to enter the labor force. The model chi-square for both years is significant and the pseudo $R^2$ is .50 in 1987 and .40 in 1992 (Table 5). **Predictors of Educational Attainment for 1987 and 1992**

The regression with all 271 cases indicates that only number of workers, household income, and age of the child are significant predictors of overall educational attainment in both years (Table 6). As previously argued, the number of workers in the household plays a key role in determining whether the child belongs to a family that must place children into the labor force to meet household income needs; household income is important because of the increase in costs associated with higher levels of education; and the age of the child is highly related to his/her level of educational attainment. In 1987, education of the mother is also significant in predicting level of educational attainment as hypothesized. In 1992, a negative relationship is found to be significant between child working and educational attainment, indicating that if the
Table 5: Logistic regression of the probability that children will be in school in 1987 and 1992.

<table>
<thead>
<tr>
<th>Variables</th>
<th>1987 n=270</th>
<th></th>
<th></th>
<th>Standardized</th>
<th>1992 n=235</th>
<th></th>
<th></th>
<th>Standardized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Parameter estimate</td>
<td>Standard error</td>
<td>Wald X²</td>
<td>estimate</td>
<td>Parameter estimate</td>
<td>Standard error</td>
<td>Wald X²</td>
<td>estimate</td>
</tr>
<tr>
<td>Age of mother</td>
<td>-.04</td>
<td>.04</td>
<td>1.03</td>
<td>.00</td>
<td>.00</td>
<td>.02</td>
<td>.07</td>
<td>.00</td>
</tr>
<tr>
<td>Education of mother</td>
<td>.24</td>
<td>.10</td>
<td>5.62^b</td>
<td>.13</td>
<td>.05</td>
<td>.04</td>
<td>1.45</td>
<td>.00</td>
</tr>
<tr>
<td>Numbers of workers</td>
<td>-.48</td>
<td>.25</td>
<td>3.74^a</td>
<td>-.09</td>
<td>-.63</td>
<td>.18</td>
<td>11.74^c</td>
<td>-.17</td>
</tr>
<tr>
<td>Household income</td>
<td>-.00</td>
<td>.00</td>
<td>.22</td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>4.74^a</td>
<td>.09</td>
</tr>
<tr>
<td>Sex role attitudes</td>
<td>.11</td>
<td>.08</td>
<td>1.67</td>
<td>.19</td>
<td>.11</td>
<td>.06</td>
<td>2.82</td>
<td>.05</td>
</tr>
<tr>
<td>Age of the child</td>
<td>-.30</td>
<td>.10</td>
<td>8.09^c</td>
<td>-.17</td>
<td>-.04</td>
<td>.08</td>
<td>.34</td>
<td>.00</td>
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<tr>
<td>Gender of the child</td>
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<td>.59</td>
<td>1.59</td>
<td>.00</td>
<td>-.10</td>
<td>.39</td>
<td>.07</td>
<td>.00</td>
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<tr>
<td>Child working</td>
<td>-3.37</td>
<td>.74</td>
<td>20.73^a</td>
<td>-.30</td>
<td>-2.36</td>
<td>.47</td>
<td>25.02^c</td>
<td>.89</td>
</tr>
</tbody>
</table>

-2 Log Likelihood X² | 196.539 | 312.786 |
Model X²              | 98.929  | 125.915 |
Degrees of freedom    | 8       | 8       |
p-value               | .001    | .001    |
Pseudo R²             | .503    | .402    |

^a p<.05; ^b p<.01; ^c p<.001
child is working, he/she is less likely to have attained higher levels of education at the same time. The overall model is significant in both years and the $R^2$ is .60 in 1987 and .33 in 1992 (Table 6).

Educational attainment for children 12 years old and younger is estimated to correspond to a primary level ($1^{st}$ through $6^{th}$ grade) education in Mexico. In 1987, the analysis of the 102 children who met this criterion reveals that household income and age of child are significant predictors of educational attainment (Table 7). Both relationships are positive, indicating that the higher the household income, the higher the grade attained by the child. Also, older children will have achieved higher grades within primary level education. The model is significant in 1987 with a $R^2$ of .39 (Table 7).

Educational attainment for children between the ages of 13 and 19 is estimated to correspond to the secondary level ($7^{th}$ through $8^{th}$ grade) and to the high school level ($9^{th}$ through $12^{th}$ grade). These two levels are grouped together because the sample size for each would have been too small if they had been evaluated separately in the regressions.
Table 6: Regression of level of educational attainment in 1987 and 1992 (n=271).

<table>
<thead>
<tr>
<th>Variables</th>
<th>1987</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of mother</td>
<td>-0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Education of mother</td>
<td>0.09*a</td>
<td>0.06</td>
</tr>
<tr>
<td>Numbers of workers</td>
<td>-0.11*a</td>
<td>-0.13*a</td>
</tr>
<tr>
<td>Household income</td>
<td>0.11*a</td>
<td>0.19*c</td>
</tr>
<tr>
<td>Sex role attitudes</td>
<td>0.02</td>
<td>0.08</td>
</tr>
<tr>
<td>Age of child</td>
<td>0.79*c</td>
<td>0.45*c</td>
</tr>
<tr>
<td>Gender of child</td>
<td>0.00</td>
<td>0.04</td>
</tr>
<tr>
<td>Child working</td>
<td>-0.06</td>
<td>-0.22*c</td>
</tr>
</tbody>
</table>

| R²                      | 0.60     | 0.33     |
| Adjusted R²             | 0.59     | 0.31     |
| Degrees of freedom      | 8        | 8        |
| F Ratio                 | 9.88*c   | 16.80*c  |

*a p<.05;  b p< .01;  c p< .001
Table 7: Regression of level of educational attainment in 1987 for children 12 years old and younger.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of mother</td>
<td>.02</td>
</tr>
<tr>
<td>Education of mother</td>
<td>.07</td>
</tr>
<tr>
<td>Numbers of workers</td>
<td>-.07</td>
</tr>
<tr>
<td>Household income</td>
<td>.26b</td>
</tr>
<tr>
<td>Sex role attitudes</td>
<td>-.08</td>
</tr>
<tr>
<td>Age of child</td>
<td>.55c</td>
</tr>
<tr>
<td>Gender of child</td>
<td>-.10</td>
</tr>
<tr>
<td>Child working</td>
<td>.00</td>
</tr>
</tbody>
</table>

| R²                         | .39  |
| Adjusted R                 | .34  |
| Degrees of freedom         | 8    |
| F Ratio                    | 7.54c|

*a p<.05;  b p< .01;  c p< .001

Analysis of 162 children in 1987 and 171 in 1992 reveals that only age of child is a significant predictor of educational attainment in both years (Table 8). In 1987, number of workers has a negative and significant relationship to educational attainment. In 1992, child
working is negatively and significantly related to educational attainment. The model is significant in both years and the $R^2$ is .39 in 1987 and .32 in 1992 (Table 8).

The analysis of educational attainment for children ages 20 and older is estimated to correspond to the university level in Mexico. A sample size of 100 children in 1992 reveals that household income, age of child, gender of child, and child working are significant family predictors of educational attainment for children 20 years old and higher (Table 9). As hypothesized, household income is positively related to university educational attainment because the costs of education are typically higher at this level. As could be expected, the age of the child is positively related to child's educational attainment. Consistent with the literature and study hypothesis, boys are more likely than girls to achieve a university education. Lastly, working children have a lower probability of attaining a university education than nonworking children. The model is significant in 1992 and the $R^2$ is .33.
Table 8: Regression of level of educational attainment in 1987 and 1992 for children ages 13 to 19 years old.

<table>
<thead>
<tr>
<th>Variables</th>
<th>1987 (n=162)</th>
<th>1992 (n=171)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of mother</td>
<td>-.08</td>
<td>.00</td>
</tr>
<tr>
<td>Education of mother</td>
<td>.10</td>
<td>.12</td>
</tr>
<tr>
<td>Numbers of workers</td>
<td>-.18&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-.11</td>
</tr>
<tr>
<td>Household income</td>
<td>.11</td>
<td>.14</td>
</tr>
<tr>
<td>Sex role attitudes</td>
<td>.04</td>
<td>.06</td>
</tr>
<tr>
<td>Age of child</td>
<td>.61&lt;sup&gt;c&lt;/sup&gt;</td>
<td>.40&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Gender of child</td>
<td>.01</td>
<td>-.04</td>
</tr>
<tr>
<td>Child working</td>
<td>-.09</td>
<td>-.24&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1987</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&lt;sup&gt;2&lt;/sup&gt;</td>
<td>.39</td>
<td>.32</td>
</tr>
<tr>
<td>Adjusted R&lt;sup&gt;2&lt;/sup&gt;</td>
<td>.36</td>
<td>.29</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>F Ratio</td>
<td>12.33&lt;sup&gt;c&lt;/sup&gt;</td>
<td>9.75&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> p<.05; <sup>b</sup> p< .01; <sup>c</sup> p< .001
Table 9: Regression of level of educational attainment in 1992 for children 20 years and older.

<table>
<thead>
<tr>
<th>Variables (n=100)</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of mother</td>
<td>.05</td>
</tr>
<tr>
<td>Education of mother</td>
<td>.03</td>
</tr>
<tr>
<td>Numbers of workers</td>
<td>-.19</td>
</tr>
<tr>
<td>Household income</td>
<td>.33c</td>
</tr>
<tr>
<td>Sex role attitudes</td>
<td>.14</td>
</tr>
<tr>
<td>Age of child</td>
<td>.18*</td>
</tr>
<tr>
<td>Gender of child</td>
<td>.18*</td>
</tr>
<tr>
<td>Child working</td>
<td>-.26b</td>
</tr>
</tbody>
</table>

R² : .33  
Adjusted R² : .29  
Degrees of freedom : 8  
F Ratio : 5.81c

^a p<.05; ^b p< .01; ^c p< .001

Discussion and Conclusions

Consistent predictors of both school enrollment and level of educational attainment in most regressions across both time periods are the number of workers in the household,
household income, age of the child, and whether the child is working. The direction and significance of the predictor variables are consistent with what was hypothesized. First, the larger the number of workers in the family, the less likely the child is to be enrolled in school in either 1987 or 1992 and the less likely the child is to have higher levels of educational achievement. Second, the higher the household income, the more likely children are to be enrolled in school and pursuing higher levels of educational attainment. Third, if the child is working in either year, the likelihood that he/she will be enrolled in school is lower than if he/she is not working; therefore, working children have a lower probability of achieving higher levels of educational attainment than non-working children.

Differences are found in the significance of predictor variables of level of educational attainment between the regression analysis that included all 271 children and the regressions that grouped children into educational levels. Overall, more variables are significant in the regression including all 271 cases. All variables significant in the regressions for children 12 years old and younger (primary education) and for children between the ages of 13 and 19 (secondary and high school education) are also are
significant in the regression with all cases. In the regression of children ages 20 years and older (university education), however, gender of the child is a significant predictor of educational attainment. Gender of the child was not significant in any other regression model.

Family characteristics that were hypothesized to have an affect on school enrollment and educational attainment that were not consistently significant in this study are: age of the mother, education of the mother, sex role attitudes, and gender of the child. Of particular interest is the performance of the education of the mother and the gender of the child. It was hypothesized that the higher the level of education of the mother, the higher the probability that the child would be enrolled in school in 1987 and 1992 and the child would have higher levels of educational achievement. This variable is positive and significant in the zero-order correlations but is not significant in some of the multivariate regression analyses. Maternal education was significant in the logistic regression predicting school enrollment in 1987 and in the linear regression for primary level education. Thus, maternal education is only a predictor of educational attainment for younger children during the primary years of school. Children in Oaxaca are
pursuing education regardless of their mother's level of educational attainment.

It was predicted that boys would have a greater likelihood than girls to be enrolled in school and to achieve higher levels of educational attainment. This variable is only significant in predicting level of educational attainment among children 20 years old and older in 1992. Indeed, this study confirms that boys are more likely than girls to achieve a university level education.

The findings in this study are an important contribution to the literature addressing educational attainment of children in the developing world and in Mexico. Elements of both theoretical frameworks discussed are reflected in the results of this paper. The arguments made by household survival strategies theorists suggesting that poor families must place a greater number of household members into the labor force to make ends meet (Hackenberg et al., 1984, Murphy & Selby, 1985; Murphy & Stepick, 1991; González de la Rocha & Latapi, 1991) were confirmed. Often, the employment of children at a young age translates into low levels of academic achievement. It is important to note, however, that it is premature to assume that children who were between the ages of 15 to 25 years old in 1992 will not
eventually return to school or get technical training in a specific area. The human capital framework also describes part of the changes that are occurring in Oaxaca with respect to educational attainment of children. This is a society that is investing in the education of their children to keep up with the socioeconomic developments of the country.

A follow-up study could be helpful in providing information concerning what happens to children who leave school prior to graduating from at least high school and the type and sector of the labor force they belong to. Future studies that include questions about the value and meaning of formal education along with family decision-making processes regarding the education of their children could add to our understanding of how decisions are made regarding children's education.

References


CHAPTER 3: DO RETURNS ON INVESTMENT FOR EDUCATING CHILDREN IN OAXACA DE JUÁREZ, MEXICO, PAY OFF?
A QUALITATIVE ANALYSIS

A paper submitted to the Hispanic Journal of Behavioral Sciences

Elizabeth Wieling, Mary Winter, Earl W. Morris, and Arthur D. Murphy

Abstract

This paper is a qualitative study based on 11 ethnographic interviews with families in Oaxaca de Juárez, Mexico, that focused on the retrospective assessments of families about their decisions regarding the formal education of their children. The study includes a

1 Data for this study are from two projects, “A Decade of Change in Oaxaca, 1977-1987, and “Households in Oaxaca and Mexico’s Crisis,” both funded by the National Science Foundation.

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descriptive and detailed analysis of the phenomenological meanings families attribute to education in Oaxaca. The primary themes identified by families as playing a role in decision-making processes regarding education were: (1) the role of personal sacrifice for the benefit of the entire family; (2) the collective nature of educational achievement; (3) the association of education with upward social mobility for the family; (4) feelings of pride for the family and increased social status in the community; and (5) hope for a better life for the children's generation.

The household survival strategies literature suggests that it is counterproductive for the poor to educate their children and that the way to move out of poverty is to have as many family members as possible in the labor force. Formal education not only prevents children from generating income but it costs the family money. Human capital theory, on the other hand, contends that the most important source of growth and development for families and for a nation is its educated human capital. Families should invest in formal education for their children because the rates of return on investment benefit the family. Yet another perspective, modernization theory, proposes that in the long run, countries that undergo capitalist development benefit
from investing in formal education because technologically advanced societies need an educated population. Again, providing children with a formal education is the best guarantee for job security in the future.

The purpose of this study was to examine retrospective assessments of decisions by families in Oaxaca de Juárez, Mexico, to educate their children in formal institutions. Families were asked whether they viewed the long term benefits of education to outweigh the costs and personal sacrifices made in the process of sending their children to school.

Formal education is recognized as a basic human right worldwide (Universal Declaration of Human Rights, Article 26). The number of children who have access to formal education, particularly in the developing world, is limited. The reasons why many children do not receive at least a primary school education are complex and vary from one country to another. In most cases, poverty at both the private and public levels is the greatest impediment to educational attainment (Gould, 1993).

The pursuit of formal education is closely tied to cultural values and beliefs. For example, the individualistic versus the collectivistic nature of a
culture is a decisive factor in prescribing how formal education is taught and its role in the family and in society. Research studies addressing the importance that families place on developing independence versus interdependence in children (Delgado-Gaitan, 1994; Suina & Smolkin, 1994; Tharp, 1994; Kim & Choi, 1994) have found that families belonging to traditional societies often believe that schooling undermines the family as an educational institution. Therefore, families question the usefulness of formal education.

In her study of street children in Urban Nigeria, Oloko (1994) highlights a paradox that captures a dilemma faced by many societies caught in the process of shifting to capitalist modes of production in which there is a steady migration from rural to urban areas: "Although schooling becomes increasingly important to survival in an urban, industrial society, schooling by itself decreases a person's willingness to share school's economic rewards with an extended family group" (p. 16). Thus, school reduces the functional social unit from the extended family to the nuclear family and begins to shift values toward the development of the independent individual (Greenfield & Cocking, 1994).
This situation creates difficulties in an individual’s ability to attain the rewards of formal schooling while retaining the willingness to share these rewards and meet traditional family expectations. The paradox is that, for families who look upon the child’s education as an investment for the entire family, “the very process of becoming highly educated may make the recipient of the investment much less willing to share his or her fruits with the extended family” (Greenfield & Cocking, 1994, p. 16). To further emphasize the conflict that formal education often creates, a study of the socialization of young children in Mexican-American families found that “there is a genuine value conflict between the independence script required for educational and economic success and the interdependence script required for social success in the family” (Delgato-Gaitan, 1994, p. 19). Advanced education is still one of the most used tools to bring honor and increased social status to traditional families and, given the social and economic conditions in Mexico, an educated child may be one of the family’s few hopes of at least achieving upward social mobility and perhaps upward economic mobility.
Theoretical Framework

Three theoretical perspectives are directly related to the discussion of formal education in the Developing world. First, modernization theory is relevant because of Mexico’s socioeconomic status vis-a-vis the global market economy. Mexico is a clear example of a country struggling to modernize by following a capitalist development model. Modernization theory proposes that, with capitalist development and technology transfer, the social and economic conditions of the developing world will increase and labor force participation will be distributed more equally among the masses (Weber, 1971; Webster, 1990). In addition, modernization theorists claim that developing countries will adopt more egalitarian or “modern” attitudes as they become incorporated into the global market economy (Draper, 1985; Webster, 1990). The belief is that the developing world will be able to emulate the development that occurred with the four Tigers in Asia (Taiwan, Singapore, South Korea, and Hong Kong).

Despite modernization claims, the amount of advanced technological transfer that has occurred from the developed to the developing world has been minimal. Instead, multinational corporations have established hundreds of
Export Processing Zones throughout the world where assembly line factories employ mostly young women and, many times, children. This type of work has not proven to provide workers with advanced skills training. Rather, the pool of persons who migrate to the cities in search of low skills and low paying work has increased.

The link between a country's economic development status and children's education can be seen in many ways. First, as mentioned, both private and public domains of poverty influence children's education directly. Second, employment and underemployment directly influence the family's ability to educate their children and dictate the necessity of placing children in the labor force and out of school. Third, the developing country's status within the global economy has an indirect but very real influence on a nation's children. For example, when countries are forced to substitute subsistence crops for export cash crops, children suffer from increased hunger and malnutrition, which affect their ability to succeed in school. Second, when a country allows large foreign corporations to enter their domestic market economy, they often displace thousands of small local businesses, thereby leaving families unemployed and without the wherewithal to educate their
children. These economic domestic and global relationships are complex and need time to develop within a larger political and social system, which is often unpredictable.

The arguments of human capital theorists are not dissimilar to modernization claims in that they support the idea that a country's economic growth and development are closely linked to its educated human capital. The core idea in human capital theory is that countries must invest in human capital through education, health, job training, internal migration, and organized research (Schultz, 1971). Schultz (1971) argues that it is not possible to have modern capitalist development without making large investments in human beings. In addition, a major reason individuals invest in human capital through formal education is to enhance their opportunities for higher income in the future, thereby increasing their total wealth (Bryant, 1995). The implications of the human capital perspective for Mexico are that the country must make access to and quality of education a priority. Mexican families should follow suit and invest all their efforts in keeping children in school thus raising a generation that meets the demands of a technological society more adequately.
Lastly, the household survival strategies literature offers a more grassroots or microeconomic perspective as opposed to the macroeconomic nature of the first two theoretical frameworks discussed. Studies on household survival strategies (Hackenberg, Murphy, & Selby, 1984; Murphy & Selby, 1985; Murphy & Stepick, 1991; González de la Rocha & Latapi, 1991) of the marginal and the poor have shown that the survival of the household often depends on a large number of members. The number of persons generating income becomes the key factor for household survival independent of whether the income comes from the formal or informal economic sector and regardless of how meager the financial contribution may be. Therefore, the manner in which households organize themselves becomes essential.

In a study of household survival strategies under dependent development in Oaxaca, it was found that common strategies employed by households were to increase the number of productive workers in the home by putting children to work early, importing adult members into the household, or keeping the elderly at work longer (Hackenberg et al., 1984). Despite the fact that sending children to school may be counterproductive for the poor, some families are making extraordinary efforts to educate their children.
Little is known about characteristics of families who choose to keep their children in school and whether these families view the benefits of educating children as outweighing the costs and personal sacrifices made in the process.

The objective of this study is to evaluate the competing theoretical frameworks against what families in Oaxaca report as being their reasons for educating children. The search is to find the theory that best describes family decision-making processes regarding educational attainment of children within Mexico's greater socioeconomic structure.

Background Information

It is important to describe the educational context in Mexico to understand the setting in which ethnographic interviews were conducted with Oaxacan families. Following is a review of the status of education in Mexico and in Oaxaca.

The Status of Education in Mexico

On December 1, 1994, President Zedillo pledged that all Mexican children would complete high school by the end of his administration (Lorey, 1995). This ambition has not materialized for a variety of reasons. First, over 100 indigenous languages are spoken in Mexico's rural areas. At
least 10% of Mexicans (almost 9 million people) do not speak Spanish and bilingual schools reach only a small part of this population (Lorey, 1995).

Family economic factors play an important role in the high school dropout rates. In fact, Lorey (1995) claims that family economic factors are the most significant predictors of educational attainment for children at the high school level. Parents need children to contribute to family income.

Poor and inadequate teaching conditions at the primary (1st - 6th grade) and secondary (7th - 8th grade) levels are yet another factor affecting the education of children in Mexico. Classrooms often have over forty children for every teacher. These same teachers are frequently responsible for as many as six grades (Lorey, 1995). In addition, teachers are mostly young females who are often poorly trained (Lorey, 1995).

The primary and secondary school curriculum inhibits educational achievement. The curriculum is controlled by the Ministry of Public Education (SEP), which mandates uniformity throughout the country. Each grade has a standard curriculum. If children do not pass a particular subject in that grade’s curriculum, they are forced to
repeat the exact same curriculum the following year. This practice leads to frustration, boredom, and increased drop out rates (Lorey, 1995). As a result of such pervasive inequalities in addressing the needs of all children, educational coverage and attainment in Mexico has not met the goals established by President Zedillo for every Mexican child to complete high school.

Interestingly, university education in Mexico has received more attention than any other educational level over the last few decades in Mexico. The controversies surrounding the university system stem from two important goals of Mexican Universities: (1) to produce the skills needed for economic development; and (2) to produce social mobility by providing access to professional careers (Lorey, 1995).

Part of the educational issue is the lack of ability of the Mexican economy to absorb university graduates at the professional level. After the 1950s, enrollment at the university level grew dramatically. In the 30 year period from 1950 to 1980, 622,257 graduates left Mexican universities to fill 440,000 new jobs for professionals. By the 1990s, there were about a million university graduates for whom no professional jobs were available. During that
period, the demand for technicians grew at a much faster rate than for professionals. As a result, university graduates were more likely to find work below the level of their qualifications and expectations (Lorey, 1995).

The Status of Education in Oaxaca de Juárez, Mexico

The Setting - The State of Oaxaca

The State of Oaxaca is located in the south of Mexico and has a population of 3.2 million people (INEGI, 1996). Almost 1 million people belong to 14 different indigenous groups who each speak a different language (INEGI, 1996). Although there have been overall improvements in the number of Oaxacan children who have access to formal education, in an analysis of education and social well-being in Oaxaca from 1980 to 1990 (Reyes, 1993), it was found that the status of education in the State of Oaxaca had not qualitatively improved during that time period.

The level and quality of education in Oaxaca, particularly in the rural and indigenous communities, is considered one of the lowest in the country. Bilingual education is not made available in many of the rural communities thereby, further isolating these populations (Reyes, 1993).
In a study of the determinants of educational attainment for children in Oaxaca, Izquierdo (1994) found that a family's ability to gain "political favors" was highly associated with one's ability to enroll and succeed in school. Ramirez (1997) and Murphy (1997) described the politicking that is necessary for families to engage in if they are to secure a place in a public institution for their children. In particular, the institution attended by the child during high school plays an important role in determining whether the child will have the academic ability and the social network established to facilitate enrollment in a public university. Parents also must comply with many economic demands from primary, secondary and high school institutions. For example, although school uniforms are not mandatory in public primary schools, schools often demand that children buy uniforms and additional school supplies from teachers. If the family does not comply, the likelihood that the child can succeed in school is low.

The Setting - The City of Oaxaca

The city of Oaxaca is the capital of the State of Oaxaca. The city's population is approximately 400,000 people (INEGI, 1996) and is located in a valley surrounded on all sides by steep mountains (Murphy, 1991). Its isolated position has
made it difficult for Oaxaca to host industrial development. Instead, this beautiful colonial city has developed a tourism market and has become known for their painted animals, black pottery, and woolen handicrafts.

Most of the state’s universities are located in the city. Although many students enroll at the university level, the percentage of students who complete their education and become *titulados* (complete their internship requirements) is much lower (INEGI, 1996). For the students who are able to complete their education in Oaxaca, the next obstacle becomes finding suitable employment in their specific areas (Ramirez, 1997; Murphy, 1997). The city of Oaxaca is not an industrialized center as other parts of Mexico have become. Therefore, if university graduates want jobs in their related fields, they often have to leave the city and their families behind. For a people who place a high value on family bonds and extended kinship, the decision to either stay in the city and risk underemployment or unemployment or to leave in search of opportunities elsewhere places a heavy burden on both the child and the family.
Methodological Considerations

The question of why some families are making extraordinary efforts to keep their children in school despite their relatively low economic status is the central focus of this study. In addition, families' views regarding the benefits of educating children in relation to the costs and personal sacrifices made in the process are sought to be understood. Qualitative methodology is an ideal approach for this study because the research question concerns the symbolic meaning that families in Oaxaca attribute to formal education. Qualitative studies are particularly useful in the investigation of such questions in that they provide for in depth analysis and description of people's phenomenological experiences.

The naturalistic researcher begins at the observation stage. The researcher is interested in studying a specific phenomenon by taking into consideration all of its multiple realities (Cuba, 1981). Thus, the postulation of a priori theory is not adequate because such theory could never encompass the multitude of perspectives that may be encountered along the way. Rather, the naturalistic researcher enters the field with very loosely organized "working hypotheses" and collects data that lead to the
development of grounded theory (theory that has its roots in the data). Frequently, in naturalistic research, the sampling procedure is purposive, that is, the researcher seeks individuals who can provide information about the particular phenomenon being studied. The researcher is interested in capturing the phenomenological experiences of the participants and will therefore choose sample extremes and deviant cases as well as those that may fall closer to the mean (Guba, 1981).

The naturalistic researcher also must be concerned about issues of validity and reliability but will undergo different procedures in the process of designing a credible research study. These procedures are referred to by Lincoln and Guba (1985) as credibility, transferability, dependability, and confirmability.

Credibility (Lincoln & Guba, 1985) refers to whether the researcher's work may be found credible and believable. Credibility is analogous to internal validity in quantitative research. Two of the most important ways to ensure credibility are (1) triangulation, defined as using a variety of techniques, sources, and timing to get the most in-depth and clear description and information concerning the phenomenon being studied; and (2) member checks, in
which the respondents check the researcher's information and interpretations. Member checks become crucial when the researcher is attempting to reconstruct the realities of the informants. Other methods used to ensure credibility are (3) prolonged engagement in the field; (4) persistent observation; and (5) peer debriefing.

Transferability (Lincoln & Guba, 1985) refers to the need for the researcher to provide sufficient information through thick description to allow another individual to make judgments about whether findings can be transferred to a similar situation and context. Transferability in qualitative research is analogous to external validity in quantitative research.

Dependability (Lincoln & Guba, 1985) refers to the stability and predictability of the data. Dependability is analogous to the conventional concept of reliability. Dependability can be accomplished through overlapping methods such as (1) triangulation; and (2) inquiry audit, accomplished by having a third party examine the records and processes used in the study such as how records are kept, interpretations of data, etc.

Confirmability (Lincoln & Guba, 1985) is accomplished through the triangulation of a reflexive journal and an
audit. Recorded in the journal are methods, how methodological decisions are made, the researcher's feelings and thoughts, daily schedule, and overall notes about the study. The audit looks at raw data, process notes, data reconstruction, and journal entries to ensure further triangulation of data.

It is crucial that the researcher not assume either a positive or negative outcome for participants given that, in qualitative research, the design is emergent and based on domains of meaning that evolve in the context of the interviews being conducted. Debriefing interviews are normally introduced as a way to explore further the phenomenological experiences of the participants during the formal interview.

Methods Used in This Study

Participants

In order to answer the questions proposed in this study, families who had experiences with the Mexican educational system were selected. The objective was to have a sample that represented families on both ends of the continuum by including families where children had low levels of educational attainment and families where children had
attained high levels of educational attainment. The participants for this study were selected from a probability sample of 353 households interviewed in both 1987 and 1992 in the city of Oaxaca. A subsample was created from these data sets that consisted of all household members born between the years of 1966 and 1977; these 271 children lived in a total of 171 households, which formed the pool from which to select participants for the ethnographic interviews. For each individual there was detailed information on family and household characteristics as well as information on school attendance and educational attainment. The 1992 household characteristics were used to select the participants to be interviewed in 1997. For the 271 children, the variable, years of schooling achieved in 1992, was subdivided into 5 categories: (1) category I was composed of children with 5 or fewer years of education; (2) category II was composed of all children with 6 to 7 years of education; (3) category III was composed of all children with 8 to 12 years of education; (4) category IV was composed of all children with 12 to 16 years of education; and (5) category V was composed of all children with 17 or more years of education. Obviously, there was overlap in the number of times a household appeared in a category and
some households were placed in two categories because they had children with differing levels of educational achievement.

After frequency distributions of the household identification numbers were completed for each category, families to be selected for the interviews were chosen within each category with the assistance of a random number table. Fifty-four families were identified as potential respondents. The objective was to have one family interviewed from each of the extremes (one family from category I, in which the family has one or more children with 5 years or less of education, and one family from category V, which included families with one or more children with 17 or more years of education), two families from categories II and IV, and six families from category III, to ensure that the sample was representative of families with children with a wide range of educational achievement levels. Fortunately, the ideal number of families was reached within each category. However, in category three, five rather than six interviews were completed because saturation or redundancy was reached for that group, which meant that the same type of information
began to emerge from the ethnographic interviews with participants in that category.

The first family to be interviewed was purposively selected because one of the primary investigators had interviewed the family before and believed they would be an ideal household with whom to begin conducting the interviews. The purpose of this first interview was to test the appropriateness of the interview questions, the recording machine, and transportation logistics, so adjustments could be made accordingly for subsequent interviews.

A total of 11 complete interviews are reported in this study. Ten interviews were conducted with the mother as the primary respondent and one interview was conducted with the father as the respondent. The responses given by the mothers and the father during the interviews regarding the education of children were similar. In most cases, there were also children present who contributed information. Fictitious family names are used to describe the families in this paper.

Field Work

In January, 1997, I joined my major professor in Oaxaca for approximately three weeks to conduct the ethnographic
interviews. The first days in Oaxaca were spent identifying and selecting potential participants for the study. After 54 families were identified, a one page summary information sheet was prepared for each family that included data about the household’s address, number of children, and names and ages of all household members. In addition, a city map was consulted to locate each household by city block and general region in the city.

My goal was to conduct three interviews each day by going to homes during the morning and afternoon. It was not possible to schedule appointments for the interviews because most families did not have telephones. Thankfully, after the unfortunate luck of the first day where one woman asked us to return in the afternoon and three other attempts to locate occupied addresses failed, I was able to conduct at least two interviews each day.

Finding the correct addresses was extremely challenging because often there would be a couple different numbers on a door and the sequence of numbers was not as expected (not only a dilemma for myself as a foreigner but for the taxi drivers and my Mexican co-interviewers as well). The only resort, at times, was to knock on doors and ask where a particular family lived while being careful not to breach
confidentiality. Therefore, after a full day’s work, coming home with two complete interviews was considered a success. Each evening, a journal was kept detailing the day’s events and interviews and plans were made for the next day.

We went to each household with a list of 1992 demographic information on the family. After introducing ourselves, giving our university and project affiliations, and reminding participants that they had been interviewed in 1987 and in 1992, we asked permission to re-interview regarding educational issues. Participants granted modified informed consent as approved by the Iowa State University Human Subjects Committee and permission was asked to audio record the session. Only one woman declined to be interviewed, stating that she did not get anything in return for her time. All other families were amazingly receptive and stated that they were flattered that people would care about their lives.

In 1997, each family was asked to update information regarding how many children were in the family, the marital status, educational attainment and field of study, employment status, and address of each child. Even though families were selected on the basis of the educational
attainment of a particular child, information was gathered on all children.

Interview Procedures

To answer the questions proposed in this study, ethnographic interviews were conducted with families in Oaxaca who had children with differing levels of educational attainment. First, the "grand tour" or lead question was asked and appropriate follow-up questions succeeded.

Grand tour or lead question
Would you share with me your family and individual experiences while your children attended school?

Follow-up questions
If respondents did not volunteer the following information in their response to the grand tour question, additional questions were asked to ensure that the research topic was thoroughly covered.
1. How did your family organize itself in order to make it possible for your children to attend school?
2. Why did you decide to educate your children and who decided?
3. Were all your children educated?
4. Was it worth it -- the sacrifices made to educate the children-- Why?
5. Who benefited the most?

6. Do you have any regrets regarding your decision to educate (or not educate) your children?

7. Did the 1994 devaluation of the peso have an impact on your family? Did it affect the children's education?

Interviews were conducted in Spanish by the primary investigator who was present at all interviews. A Mexican high school teacher, currently enrolled in graduate study at the Instituto Tecnologico was present at six interviews. An Iowa State University graduate student was present at two interviews. The second author and primary person in charge of this project was present at the first interview. Each interview lasted approximately one hour and fifteen minutes. All interviews were audio recorded and later transcribed in Mexico. The interviews were not translated into English because the primary investigator is fluent in Spanish.

Data Analysis

The interview transcriptions were analyzed according to the Developmental Research Sequence of Spradley (DRS) (See Spradley, 1979). Domain analysis as specified by the DRS (any symbolic category that includes other categories) was used to generate areas of domain. The areas of domain analysis consists of: (1) raw transcription of the
interviews; (2) synthesis statements, derived from key words and phrases, which were extracted from the raw text; (3) synthesis statements were clustered and collapsed into categories of similar meanings obtained from each family; and (4) domains of meaning obtained from each family were collapsed into categories of similar meaning from across all informants. Domain analysis is a methodological means of understanding people’s phenomenological experiences.

After receiving all transcripts from Oaxaca, the interview tape was matched to each raw transcript to check its accuracy and to make relevant notes regarding voice, intonation, and pauses. The DRS was followed in Spanish. All synthesis statements, categories, and domains of meaning were translated into English and reviewed by an English-Spanish certified translator who also served as study auditor. The information compiled from interview transcripts was compared to the field note journal as another method of data triangulation.

Unfortunately, it was not possible to return to participants for member checks on the accuracy of synthesis statements given the short time in the field and the inability to return to the country for this purpose. Notes were taken throughout the interviews however and at the end,
statements that seemed to capture the emerging themes identified by families during the conversation were reiterated to the family to check their accuracy. In addition, immediately following each interview, debriefing meetings were held between the primary investigator and the co-interviewer to review salient points of the interview and to check on the appropriateness of the study questions and procedures. Adjustments were incorporated into the interviewing process as needed. Therefore, although formal member checks did not take place, every effort was made to triangulate the data and discuss the process with co-interviewers to ensure the reliability and validity of the study.

Description of study participants

A brief description of each family interviewed in this study is included to provide a framework to understand the context of the study.

Families with children with 5 or fewer years of education:

The Santiago family has 4 children, three sons aged 20, 23, and 26 and one daughter who is 24 years old. The father sells ice-cream on the streets of the neighborhood. The mother makes and sells tortillas out of the home. None of the children completed primary education. All sons are
married and each has one child of his own. They are involved with carpentry and painting and work together on projects. The daughter is single and works as a beautician. All siblings and their spouses live in the same compound with the parents. The mother reported that the reason her children were not able to stay in school was because the father is an alcoholic who drank heavily up until two years ago, leaving the family with no resources to provide education for the children. In fact, they began working at very young ages to support the family. This dwelling was constructed with scrap aluminum and is located at the top of a hill on a squatter’s lot. The family is now laying the foundations to build a brick home; they hope to have it completed in the next couple of years.

*Families with children with 6 to 7 years of education:*

The Delgado family has 4 children, all sons, aged 20, 21, 23 and 24 years old. The father is a self employed plumber and the mother works in the home as a homemaker and assists with the family business by scheduling her husband’s work. All children finished secondary education. Two of the sons went to a technical school and received training as electricians. Two of the sons are married and each has one child. All four sons work with the father and one reported
that he saw no need to keep going to school since he knew that education would not necessarily provide him with a job, whereas working with his father was a guaranteed livelihood. All sons live in the same compound with the parents.

The Morales family has 6 children, two sons, aged 19 and 24, and 4 daughters aged 17, 20, 26, and 30 years old. The father works for the government as a clerk. The mother sells roses in the market from 5 a.m. to 3 p.m. seven days a week. The oldest child completed secondary school and now works in a factory as an assembly line operator in Oaxaca. She has been instrumental in providing financial assistance for the education of her younger siblings. Three other children (19, 24, and 28) completed high school. Two of them are married and live nearby. The 20-year-old daughter is in her second semester of Industrial Engineering at the university and the youngest (17) is finishing high school and plans to continue her education. These four siblings live in the same household with the parents. This family claims that, although the father does not make a lot of money, his job offers a stable salary with good benefits and they have been able to buy a good home in the city.

Families with children with 8 to 12 years of education:
The Silva family has 6 children, two sons, aged 27 and 36, and four daughters, 21, 22, 24, and 25. The father is an ex-soldier who is currently making and selling furniture to generate income. The mother collected and sold scrap metal on the streets up until last year, when she became ill. Both sons completed primary education and now work as carpenters. The mother reported that their financial assistance is instrumental in helping with daily financial costs. One daughter (25) has finished primary education and now is married and has 3 children. Two daughters (24 and 21 years old) finished secondary education and now work as sales clerks. These daughters also help the family financially. The 22-year-old daughter is in her 3rd semester of law school. The family is extremely proud of her, and all siblings contribute financially to assist her with educational costs. She spends all of her time either in school or in the library because this family cannot afford to buy her school books. All children and the 25-year-old daughter’s spouse and child live in the same compound with the parents.

The Chava family has 5 children, all daughters, aged 28, 35, 36, 38, and 53 years old. The father is a jeweler who reported having a successful business prior to 1994 but the
devaluation of the peso and overall worsening of the economy made him go bankrupt. He now sells jewelry out of a cart in the neighborhood. The mother is ill and does not work outside the home. In fact, she was spending time with one of the daughters who lives in the countryside. The oldest three finished high school and got married. Two of the daughters do not work outside the home and one is an primary school teacher. The youngest two daughters went to college and received degrees in nutrition and in nursing, respectively. They both have good jobs in the city. Four of the daughters live at home with their parents in the two bedroom dwelling that currently houses 13 people including the sons-in-law and grandchildren. The income earned by all siblings is essential for meeting daily expenditures.

The Morello family has 5 children, four sons, aged 18, 20, 24, and 27, and one daughter who is 16 years old. The father is an engineer who works for a local airline company in the city. The mother is the elected leader of the truckers’ union in the city. Both parents report working in excess of 12 hours a day to earn the income necessary to support their own parents and the education of their children. Their jobs pay fairly well and have allowed them to buy two small homes. All five children are still in
school. Three sons are in the university pursuing engineering degrees and one is studying architecture. The youngest is 16 and is in her 2nd year of high school. She also intends to go to college. All children are single and living in the same dwelling with the parents. This family reports being very proud of the accomplishments of their children.

The Rodriguez family has seven children, six daughters, aged 10, 13, 17, 22, and 23, and one son, 25. The father makes and sells ice-cream in the neighborhood from his three-wheeled cart. He also makes furniture to supplement his income. The mother helps to prepare the ice-cream and works in the home. She has recently developed diabetes and symptoms of depression, which have restricted her ability to work. The son is currently pursuing a Master's Degree in Industrial Engineering. The 22-year-old daughter completed clerical training and is now employed as a secretary in a company nearby. Much of her income is used to assist with the education of her siblings. The five youngest children are in school and hope to continue their education. Education appears to be highly valued in this family. Although neither parent completed primary education, they strive to provide their children with a means to stay in
school. The children are also going to the local library after school to complete their readings because they cannot afford to buy their own books.

The Lourdes family has 6 children, five sons, aged 22, 23, 24, 27, and 29, and one daughter, who is 20. The father is a carpenter. The mother used to work as a secretary but has recently developed cancer and therefore has had to quit her job. The two oldest sons, who were in their last years of college in Industrial Engineering, had to quit school and work in order to help with household expenditures as well as with the educational expenses of the youngest siblings. These sons reported that it was their duty to do so and that they are happy to help in this time of need. They hope to resume their education in next couple of years. The 25-year-old son has completed his degree in Industrial Engineering but has not been able to find an internship. He works in the same agency as his older brothers. The 23- and 24-year-old brothers are hoping to finish their university education this year. The daughter is in her first year of medical school. All children are single and living in the same household with the parents. These siblings appeared especially close to one another and talked about their dream of all finishing their education even though they realized
that the possibility of getting jobs in their field would be difficult unless they chose to leave Oaxaca.

The Santos family has 5 children, three sons, aged 16, 17, and 28, and two daughters, aged 18 and 22. This interview was not completed because no one was home and the neighbor woman reported that the mother died the year before. The father had left the city in search of work and the two oldest sons, who were in college at the time, decided to quit school temporarily and work to support the family and to put the youngest siblings through school. All siblings are unmarried and living in the same household.

Families with children with 13 to 16 years of education:

The Galvon family has 5 children, four sons aged, 28, 30, 31, 32, and a daughter, 29. The father is dying of throat cancer and requires constant care. He was a wealthy rancher who lost all his land and cattle in political uprisings. The mother was head nurse in a hospital and, although she is retired, she claims her income was very good and that she now enjoys a substantial pension. To generate supplemental income, this family rented rooms in their centrally-located home to international students who came to Oaxaca. The oldest son is a computer engineer who lives in Monterrey and manages a computer systems company. The mother reports that
he is doing very well financially. The 31-year-old son is a well-established psychologist in the city. He is single but lives in his own apartment and is also a district police officer. The 30 year old daughter is a dentist who works as the manager of the Mexican Institute of Social Work in Oaxaca. She is married and has one child. The 29-year-old daughter is a tourist agent who is married and has a one-year-old son who is being raised by her mother because she is at work 12 hours per day. This daughter, spouse and baby live with her parents. The youngest son completed two years of engineering school at the university and left the country. He went to the United States over 4 years ago and the family has not heard from him since. The mother reported having a great deal of pain and disappointments with her children because, despite their levels of education and secure economic status, the family is disengaged and only meets during the holidays.

The Salinas family has 3 children, all sons, aged 23, 27 and 28 years old. The father went back to school as an adult and became a lawyer. The mother is a nurse and works full time at a hospital. All three sons have completed university degrees in electrical engineering. Two sons have left Oaxaca to pursue their careers. They have found
employment in Mexico City. The youngest son is still at home and has recently started his own marketing business.

Families with children with 17 or more years of education:

The Fagundez family has six children, four daughters, aged 17, 24, 29, 31, and two sons, 21 and 27. The father owns a construction company and the mother works in the home. Neither parent finished primary education. The oldest daughter is a neurosurgeon in Mexico City. The 30-year-old daughter is a chemical biologist who has recently taken a year off from work at a university in Oaxaca to take care of her baby. The 29-year-old daughter graduated at the top of her university class and now is the business manager at a local company. The 27-year-old son is a computer engineer in Mexico City. The 21-year-old is finishing his university degree in electrical engineering and is still living at home, and the youngest daughter is finishing high school.

Results

The primary domains emergent in the ethnographic interviews with families in Oaxaca are discussed in this section. Most themes stem directly from the grand tour
question in the study, which asked participants to share their experiences while educating their children.

**Sacrifice**

The overwhelming response of families to the grand-tour question regarding families' experiences while educating their children was "...con mucho sacrificio" (with a great deal of sacrifice). The families went on to explain how they had made different types of sacrifices to keep at least one child in school. In all families, both parents worked in either the formal or informal sector of the labor force. The mother often worked at home preparing ice cream for her husband to sell (the Santiago and Rodriguez families) or managing inquiries for the family's small business (the Delgado family). Ten of the twelve fathers worked multiple jobs to meet basic household costs. In one case, the father left his family in Oaxaca and traveled to another city in search of work. Older siblings (who may still be in school) worked and gave their entire paychecks to the family to contribute to household expenses and to the educational costs of younger siblings. Two families reported that older siblings quit their educational programs temporarily to work and help keep their younger siblings in school.
Children also made many sacrifices in pursuit of their education. In less affluent families, children often spent half of the day at school and the other half in a local library, reading their assignments because the family could not afford to buy text books. Children walked great distances to and from school or worried about whether they would have transportation money each day. One mother admitted, "some days we wake up and we’re not sure if we will have money for food, but we make sure that we find the money for Alexandra’s bus to go to school."

The school uniform policy was another source of stress for poor families and their children. It is illegal to mandate that children wear school uniforms in public schools. However, many teachers will not allow children into the classroom without a uniform. One mother (the Santiago family) stood outside the school gate on 21 consecutive mornings, pleading with school officials to let her child in the classroom without a uniform because she could not afford to purchase one. The authorities finally allowed the child to attend regular classes; yet, the following year, school officials claimed they did not have a vacancy in the school for the child.
Financial barriers are not limited to school uniforms; they also come in the form of requesting that children buy special books and materials directly from the teachers. Several parents stated that most of the difficulties in keeping children in primary and secondary school are not associated with tuition costs, which are not very high; they are related to the internal politics of knowing the right people to help get the child into the school system and later complying with the institution’s demands in order to keep the child in school.

In sum, all family members made sacrifices in order to educate children. Family strategies to meet costs associated with education included: multiple workers, multiple jobs, older siblings’ financial assistance, children finding alternative ways to complete homework assignments, and political maneuvering to keep children in good favor with school officials and teachers.

**Pride**

Asked whether they thought the sacrifices made to educate their children had been worthwhile, families responded without exception in the affirmative. It was obvious that there was a great deal of pride associated with those sacrifices.
First, the Latino culture adheres to a collective rather than an individualistic framework (Delgado-Gaitan, 1994). Thus, a child’s educational attainment is considered the shared accomplishment of all family members. After all, each family member contributed to the child’s education. Both parents and children reported that education remained one of their only hopes for attaining job security and a better life. A 22-year-old senior in industrial engineering said that, although he put his education on hold to help educate his younger siblings, he still hoped to resume his education and eventually work in Mexico City. Once in Mexico City, he did not think he would possess the financial resources to help his family, but he believed this accomplishment would mean a great deal to the family.

When families were asked to explain how they felt about their children’s educational attainment, parents asserted that education represented the most important gift they could give their children. One father who could barely read or write admitted that, during his entire life, he felt he had been “taken advantage of and manipulated because he was an ignorant man but now [he] had peace in knowing that his children knew how to read and write and how to get along in the world” (Chava family). Of the 22 parents in this study,
only two fathers and two mothers had attained a college education. For the majority of parents, educating their children meant upward social mobility for the family. Parents gave their children something they had not been able to attain themselves because of poverty and the lack of opportunity.

In conclusion, parents and children place a high value on education. All family members interviewed reported that the sacrifices required to educate their sons and daughters were worthwhile. The issue of whether or not the children would be in the position to help their families financially in the future was not a concern because parents said they understood that the economic situation in Mexico is not stable. What was important was that, for the majority of the families, children were in a better position to secure a future with better job prospects and less poverty.

Formal education - general experiences

Families in categories IV and V felt a great sense of pride and accomplishment in having been able to educate their children and reported that they would not change anything with respect to their children’s education. Families in categories I through III lamented not having been able to keep their children in school longer. The
parents stated that their children wanted to continue studying but had to quit school because of poverty or a lack of access to an educational institution.

Families in categories I and V reported that the 1994 devaluation of the peso did not affect their families greatly. It was the middle class families who were most affected. The Santiago family stated, "we never had any money anyway, so nothing really changed." And the Fagundez family said, "we can't go on as many vacations as we use to but the kids' education has not been affected." Most other families reported that they had to make adjustments to food consumption patterns and to limit personal expenditures. The two families who reported being financially stable (the Galvon and Fangundez families) were able to educate all their children with less difficulties than the other families in the study, indicting that household income plays an important role in children's educational attainment.

There is an interesting comparison between two of the families in this study that illustrates some of the barriers that sometimes prevent children from being able to pursue an education. The two families (the Santiago and the Rodriguez families) had almost identical characteristics in terms of number of children, socioeconomic status, level of education
of the parents, and even employment of the father - both fathers sold nieve (ice cream) on the neighborhood streets. All children in one family (category III) attended school and the oldest child was pursuing a Master's degree. In the second family (category I), no child had completed high school, even though the mother repeatedly stated how much she valued education and wished her children could have stayed in school. When asked about why the children were not able to continue their education, both parents were quite evasive. The father sat next to the mother during most of the interview but as soon as he left for work, the mother told me with tears in her eyes that her husband drank heavily up until two years ago and that the family barely had enough money left to meet basic necessities. The father's alcoholism forced the children to quit school because they could not afford tuition and other educational costs. Moreover, the children "needed to go to work in order to feed themselves" (Santiago family).

In sum, the Oaxacan families interviewed in this study expressed an overwhelming feeling of pride associated with the education of their children. Education is highly valued by families despite the sacrifices made in the process of educating children. All families reported that the efforts
made to educate children were worthwhile in the long run. Families did not necessarily expect children to contribute to their families of origin as adults. Rather, most parents stated that knowing they had given their child something they had never obtained themselves (an education) and giving them an opportunity for upward social and economic mobility was enough.

Discussion and Conclusions

The experiences families in this study shared regarding the education of their children are in many ways similar to the sacrifices made all over the world while parents are educating children. However, the experiences of the Oaxacan families differ at least in two important ways from families in individualistically oriented societies. First, there is an additional layer of meaning related to the self-sacrificing values whereby each member of the family makes sacrifices to benefit the whole. These values are strongly related to the notions of familism in the Latino/a world; over time, they create a very strong bond between family members. This family bond or familism on one hand serves as a mutually supportive system that gives the individual a sense of inclusiveness and importance in la familia. On the
other hand, familism makes it difficult for one to individuate as the rules that dictate behavior and plans for the child’s future can be quite strict. The child over his/her lifetime has an implicit sense of obligation to “respect” the wishes of the family.

This discussion is relevant because it helps explain the mindset of both the family and the child as they move through the life cycle. The purpose of this study was to ask parents about their retrospective assessments of whether educating children had been beneficial in the long run. Given the strong values of collectivism and familism in the Oaxacan families, it is not surprising that families felt that all the sacrifices were worthwhile and only wish they could have done more for their children. Families did not expect financial rewards from the education of their children. One mother said, "if my children can help us [parents] financially when we’re older, it would be nice, but all we really want is the respect of our children" (Morello family).

Second, the meaning of attaining an education for the families has a unique significance that is difficult to translate into words. When families were asked about the meaning of education, they had a difficult time explaining.
I heard statements like, "it's [education] something we never had and we want to give it to our children" (Chava family), "my dream was to be able to go to school, I never could, I learned to write the little I know on my own, but now all my children have been successful in their education and I even have a daughter who is a neurosurgeon, my dream has come true" (Fagundez family), "it's the only way to get ahead in this world...it's the only hope poor people have" (Santiago family), "we know our children can protect themselves because they can read and write...they won't be taken advantage of as we [parents] were" (Chava family). Families in categories III thru V repeated over and over how much pride and satisfaction was involved in seeing their children receive an education.

It appears that elements of all three theoretical frameworks discussed can be applied to the experiences of families in Oaxaca with respect to education. Families definitely recognize the importance and necessity of education for their children as both human capital and modernization theory suggest. The household survival strategies literature seems to describe a more realistic picture, however, of the decisive factors that play a role in determining whether families can educate their children.
The shortcoming of this perspective is that it seems to take an extremist position by suggesting that children will either enter the labor force or they will attain an education. Several of the families in this study demonstrated how education and work are not necessarily an either/or choice. Rather, children may take a longer time to receive an education because they are working and studying simultaneously or they may quit school temporarily to assist younger siblings with their education. Despite the obstacles, children continue to pursue educational aspirations.

An important finding highlighted by families in this study is the role that greater societal and cultural factors play in one’s ability to receive an education. This political and cultural level is often ignored by theoretical frameworks. The importance of understanding underlying cultural nuances and value systems to capture determinants of educational attainment for children in Oaxaca more accurately is highlighted by the findings in this study. For example, if the “meaning of education” and of “sacrifice” are not taken into consideration, a crucial element in explaining how decisions regarding education are made in Oaxaca may be missed. Future research applying
multimethod methodology could benefit from qualitative information that is used to develop valid and reliable quantifiable data.

References


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CHAPTER IV: GENERAL CONCLUSIONS

Summary

Parallel cross-sectional analyses were conducted using data gathered in the city of Oaxaca de Juárez, Mexico, focusing on family characteristics that predict whether 271 children between the ages of 10 to 20 in 1987 and 15 to 25 in 1992 were enrolled in school and what their level of educational attainment was during that time period. Logistic regression equations were used to ascertain the family and child characteristics that predicted the child's presence or absence of school enrollment in 1987 and 1992. Four linear regressions were used to analyze the family and child characteristics related to children's educational attainment in the primary school level, at secondary and high school levels, and at the university level.

Significant predictors of school enrollment both in 1987 and 1992 were the number of workers in the household, and whether the child was working. Significant predictors of level of educational attainment for all 271 cases in both in 1987 and in 1992 were number of workers in the household, household income, and age of the child. First, the greater the number of workers in the family, the less likely the
child was to be enrolled in school in either 1987 or 1992 and the less likely the child was to have higher levels of academic achievement. Second, the higher the household income, the more likely children were to be enrolled in school and attaining higher levels of educational attainment in both years. Third, if the child was working in either year, the less likely he/she was to be enrolled in school and therefore would not have achieved higher levels of educational attainment. Lastly, both school enrollment and educational attainment were clearly linked to age of the child. The older the child, the more likely he/she would be to have achieved higher levels of education.

These findings support the household survival strategies theoretical framework (Hackenberg, Murphy, & Selby, 1984; Murphy & Selby, 1985; Murphy & Stepick, 1991; Gonzalez de la Rocha & Latapi, 1991), which suggests that poor families must have a greater number of household members in the labor force to make ends meet. Often, the employment of children at a young age translates into lower levels of academic achievement.

The importance of educational attainment stressed by human capital theory (Schultz, 1971; Bryant, 1995) can also be inferred from this study. Most children, who should have
been in school at least through 12\textsuperscript{th} grade were, in fact, enrolled in both 1987 and 1992. It is not possible to assess from these data what percentage of the 271 children went on to graduate from college or a technical school and whether they are successfully employed.

In 1997, ethnographic interviews were conducted with 11 families regarding their views on the education of their children. This study revealed that, to understand education in Oaxaca, one must look beyond family and child characteristics and investigate the phenomenological experiences people attribute to education and its value in society. There is no doubt that children's education is highly valued by families in Oaxaca and that families will make extraordinary sacrifices in order to keep their children in school. Some of the primary themes that emerged from ethnographic interviews conducted with Oaxacan families were: (1) the role of personal sacrifice for the benefit of the entire family; (2) the collective nature of educational achievement, at least on the part of the family (parents and children pool their resources together for the purpose of education); (3) the association of education with upward social mobility for the family rather than financial returns on investment or upward economic mobility; (4) education
brings pride to the family and raises their social status in the community; and (5) hope for a better life for the children's generation, which may include job security and financial rewards.

In the last decade Mexico has experienced a depressed economy with some highs but mostly low periods of economic growth and stability. The implications of this shaky economy for the Mexican's educational system have been quite devastating in that not only have families had to increase their efforts to educate their children but many families claimed that the quality of education has also deteriorated. Sadly, for those who are able to graduate from a university, the chances of finding employment in their fields of study are low, particularly in states like Oaxaca. Therefore, these graduates are often forced either to be underemployed or to migrate to larger urban centers or to the United States.

This situation has obvious implications for the United States in at least two important ways. First, the United States needs Mexico to produce an educated population if the North American Free Trade Agreement is to expand and succeed and for Mexico to become a self-reliant, technologically-advanced country. Second, the United States is not in the
position to absorb such a massive number of immigrants from Mexico. This topic is a highly controversial issue that has drawn a great deal of attention in the last years and is likely to continue as the Latino/a population in this country expands and begins to gain political and social influence. Meanwhile, Mexico is caught between an economic system striving to modernize with rapid industrialization and technological advances and a population, which for the most part, has been living in “Third World” conditions of poor infrastructure, high unemployment and underemployment, and high fertility rates. A high price is paid for the education of children in Oaxaca and indeed many sacrifices are made by family members.

The results of the two studies on issues related to education in Oaxaca show how two different methodological approaches can be used to provide information about a topic that is not well understood. Each approach provides rich and critical information. The next step to complement the information found by these studies would be to operationalize the primary themes that emerged from the ethnographic interviews. Themes that emerged directly from families in Oaxaca could be incorporated into a survey questionnaire and tested with a larger pool of families.
Factor analysis on these instruments could be used to help clarify abstract constructs such as pride, meaning of education, and sacrifice. Future research on this topic could capture family processes and decision-making regarding educational attainment more accurately by conducting multimethod studies conjointly.

Clinical Implications

In all likelihood, the Oaxacan families interviewed in this study will not see a family therapist. First, the profession is essentially unheard of in that part of the country. Second, the negative stigma of seeking therapeutic assistance and the cost of such services further decrease the chances of families seeking help. The lack of access to family therapists by Oaxacan families is not dissimilar to conditions found elsewhere in the developing world.

The challenge for family scientists and specifically for Marriage and Family Therapy is to reach out to populations in the developing world more adequately through organized research and development projects. Time after time, the World Bank and United States Agency for International Development (USAID) have fallen short of achieving their goals in development projects directly involving families.
Often, part of the reason for failure is that family dynamics within the given cultural context have not been clearly investigated and understood. Systemic family therapists can play a key role in more accurately capturing family needs and understanding family processes necessary for any development project to succeed in the long run.

The United Nations Children's Fund (1997) has stated that if formal education is to be widely accepted by developing countries, education must be targeted at meeting the needs of families. Formal education must be relevant and specific. Again, the challenge is to understand what is relevant within each cultural context. It is not suggested that American family therapists and USAID development projects have the responsibility of "fixing" the problems of the developing world, which is a simplistic, unrealistic, and arrogant position. Rather, there is a need for the establishment of more effective networks between family scientists and mental health professionals worldwide.

The number of immigrants and American ethnic minorities continues to escalate in the United States. Conducting international research on families can assist family therapists to understand this population better and to find more effective ways of meeting their needs in this country.
as well. It is thought that therapy will look different with many ethnic groups. It will not take place in the traditional 50 minute session once a week. Instead, family therapists will need to become creative in working with other social agencies to reach these populations.

One example of an issue directly related to both Mexican Americans and education that appears to be in direct contradiction to the findings in this study is the high school drop out rates of Latino/a adolescents. Oaxacan families spoke at length about the value of education to the child and to the family. If children in Oaxaca left school, it was primarily out of necessity to join the labor force. In the United States, Latino/a youth are overrepresented in at-risk groups and have the highest school drop-out rates (32.4% for ages 16-24) of any other ethnic group (Whites, 9.0%; and African Americans, 13.2%) (Chapa & Valencia, 1993). Although Latino/a poverty in the United States may contribute to families asking children to enter the labor force, many of the children are becoming delinquent and are not helping increase family income. Family therapists would be ideal professionals to investigate the dynamics of Latino/a families and their children regarding educational attainment. Clearly, this issue is not only a source of
great distress for families but also is a threat to the country to have its largest ethnic minority population have such high school drop out rates.

References


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