THE "GRAYING" OF MEXICO AND ITS IMPACT ON FEMALE-HEADED HOUSEHOLDS

Theoretical and Methodological Considerations

Ashley P. Finley

Dickinson College

Abstract: *Though much scholarly attention has been paid to the emergence of female-headed households in Latin America, there is debate over where to place these households within discussions of poverty and resource deprivation. Two issues complicate this debate: first, the lack of multi-resource models in quantitative analyses to fully assess types of resource accumulation, and second, the broad failure for analyses of female-headed households to differentiate between different kinds of female-heads of household.*

This research note employs the operationalization and regression analysis of four different types of resource capital to evaluate relative levels across age-differentiated female-heads of households. Specifically, resource holdings of female-heads ages 18–44, 45–59, and 60 and older are compared across five measures of monetary, physical (two measures), social, and human capital. Findings indicate areas of deprivation, but no consistent lack of resources in one age group. Using theoretical and methodological foundations derived from the independent scholarship of González de la Rocha, Moser, and Rakodi, the analysis and results of resource capital in this study are discussed through a lens of equal vulnerability, rather than a lens of equally effective survival strategies.

INTRODUCTION

In the United States, discussions of economically vulnerable groups often begin with female-headed households. Yet, in Latin America the research does not indicate the same obvious starting point. Although female-heads of households have consistently been viewed as an "at risk" group for falling into or remaining in poverty in the United States,

qualitative (and some quantitative) accounts in Mexico and Latin America do not suggest quite the same fate. Some studies do contend that poor wages, unstable working conditions, and inadequate social welfare disproportionately place female-headed households at risk for poverty (Buvinic 1997; Buvinic and Gupta 1997; Psacharopoulus and Winter 1992), but others suggest this view is limited.

Specifically, Chant (1999, 2003, 2004), and González de la Rocha (2001a, 2001b) have argued that such conclusions are often lacking in empirical evidence and/or the correct methodology to consistently presume that female-headed households are the least disadvantaged in terms of money, resources, or that they comprise the largest percentage of the poor.[1] On the contrary, these scholars point to data that suggest that these households are as viable as those headed by men, or even better off in some cases[2] (Chant 1997, 1999; González de la Rocha 2001a; Lloyd 1998; see also García and Rojas 2001). So, are female-headed households in Mexico the poorest of the poor, or not?

Two key factors complicate this debate; one is the way in which female-headed households are aggregated into one homogenous group and the other is the kind of data being used to analyze this demographic. With regard to the first issue, discussions of female-headship have been critiqued for their failure to account for the diversity of circumstances and backgrounds of these heads. Specifically, the impact of an aging head of household on female-headed households has been understudied by researchers. "There is obviously no conscious intention in the gender and development literature to marginalize older women. . . . Yet statements about the heterogeneity of women-headed households are not always followed by an effective recognition of their diversity in empirical research" (Varley 1996, 512). Thus, age has emerged as a salient starting point for disaggregating female-headed households.

Second, regarding data issues, much of the research collected to assess household resources has been based on case studies. While the detail of this qualitative information can aptly illuminate many patterns of accumulation, additional quantitative work would help this discourse by exposing trend effects across a diverse composition of households on a national scale. And these approaches are not suggested to be mutually exclusive; the complex nature of defining and assessing deprivation in

---

1. Marcoux (1998) similarly argues that a lack of evidence exists to suggest female-headed households comprise a preponderance of poor households. However, Marcoux's findings go further to suggest this is an unfounded assumption both within developing *and* developed countries.

2. As demonstrated by Chant's research (see 1985, 1997), which, in a sample of very poor households, found that in some cases male heads of households imperiled household survival because they squandered earnings on items such as cigarettes, alcohol, and gambling, or were physically abusive.

Latin America means that ultimately our understanding of the position of female-headed households relative to these issues will benefit mostly from the triangulation of qualitative and quantitative analyses.

This study addresses both the need to disaggregate female-headed households and to advance quantitative assessments of multi-resource approaches to deprivation. To address heterogeneity, female-headed households are broken into three distinct age categories—those who are roughly of child-bearing (and rearing) ages (18–44), those who are of middle age (45–59), and those who are or may be approaching old age (60 and older). To address the quantification of capital, these female-heads of households are compared along five different measurements of monetary capital, physical capital (two measures), social capital, and human capital.

WHY EXAMINE THE IMPACT OF AGE IN MEXICO?

As women continue to outnumber men among the elderly, the result is not just the graying of many populations, but the feminization of this process. This trend is particularly acute in Mexico. Moreover, as fertility and mortality rates have decreased along with women's life expectancy outpacing that of men's, it is not just aging in Mexico that has become salient to poverty research, but the gendered nature of this trend as well.[3]

Nevertheless, age continues to be an understudied element in the correlation between deprivation and female-headed households. Previous poverty research has primarily targeted populations of women that are of working or child-bearing age (Buvinic 1997; Chant 1997; Fuwa 2000; Moore 1996; Razavi 1999; Varley 1996). Yet old age, regardless of gender, has been found to be a critical factor in the susceptibility of households to poverty. And add to this that while many elderly are assisted by living with children or extended family members, research has found growing evidence that elderly women may also be living on their own at increasing rates (Gomes da Conceição 2003; Varley and Blasco 2003).

When age becomes the independent variable among female-headed households, we can begin to ask questions about viability over the life course, rather than cross-sectionally at a single age: These questions ask if women in their child-bearing years are disadvantaged by the presence and added expense of young children being in the household; if women and similarly those who are of middle age are likely to benefit relative to older female-heads from the labor of teenage children; if older women benefit from physical capital accumulation over many years, relative to younger cohorts; and if older female-heads are disadvantaged by inadequate

3. By 2040, the average life expectancy in Latin America for women and men is projected to be 81.1 and 75.6 years, respectively (De Vos 2000). See also Cutler et al. 2002.

social welfare, such as the limited benefit of Seguro Social and pensions?[4] Additionally, many Mexicans (men and women) continue to work into retirement age (De Vos, Solís, and Montes de Oca 2001; González de la Rocha 2001b; Varley and Blasco 2003), so it cannot be assumed that the combination of old age and female-headship will necessarily evidence deprivation, or even that old age is more significant to female-headed households than any other (González de la Rocha 2001b). Thus, the question remains about the degree to which age interacted with female-heads of households affects resource accumulation in Mexico.

FRAMING DEPRIVATION THROUGH VULNERABILITY

The above questions are answered and interpreted using the intersection of three theoretical and methodological frameworks. The guiding frameworks at this intersection are González de la Rocha's "poverty of resources" (1998, 2001a, 2001b, also González de la Rocha and Gantt 1995), Moser's "asset vulnerability" (1998), and Rakodi's "livelihood strategies" (1995, 2001, 2002). The standpoints these three scholars advance converge on the idea of using multi-resource models to assess deprivation and to interpret the outcomes from these models as resource vulnerability, rather than resource survival. These "vulnerability frameworks," as they are referred to here, resist viewing household resources as the poor finding inventive ways to manage with less, but rather as the poor barely managing the little they have.

Though these vulnerability frameworks have primarily been applied to qualitative findings, their scope can be applied to quantitatively based analyses as well. First, the strength in using multi-resource models to gauge deprivation is that these models allow deprivation to be operationalized on a relative scale, beyond a singular absolute measure of a poverty defined by more than a household's economic resources (typically income). This relative approach involves assessing deprivation using both monetary *and* nonmonetary resources, such as social, physical, and human capital (see also Buvinic 1997; Fuwa 2000; Jackson 1996; Razavi 1999). Multi-resource models are therefore composed by constructing measurements that can indicate various dimensions of household resources.

Despite the methodological superiority of multi-resource models, the caveat lies in their interpretation. Rather like viewing a glass as half full

---

4. Mexico's Seguro Social is a pay-as-you-go system based upon an individual's contributions to the system, similar to Social Security in the United States. However, as in the United States, the pay-as-you-go system is disadvantageous to Mexican women who are unable to pay as much into it during their primary working years as men are, and therefore get less back upon retirement. Additionally, pensions are virtually nonexistent in female-dominated work arenas, such as the informal labor market and domestic labor (De Vos et al. 2001).

or half empty, one need ask whether a household's resources actually indicate that there is this *much* or that there is this *little*. González de la Rocha has argued, for example, that in looking at a household's multiple resources, researchers have been too eager to assume this also means households have multiple paths to overcome deprivation (see 2001a, 2003).[5] She further suggests that since the debt crisis of the 1980s, multiple resources can no longer be viewed in analyses as singular parachutes that can "save" a household, such that a shortage of one resource can be successfully compensated with another (i.e., ameliorating low income with strong kin networks and physical capital).[6]

Moser and Rakodi go further to theorize what happens when resources no longer represent guaranteed survival. Moser's "asset vulnerability" framework posits that once households become vulnerable due to the loss of multiple types of resources, a vicious cycle emerges in which additional assets are even harder to acquire because opportunity structures become closed off (Moser 1998). Similarly Rakodi's "livelihood strategies" framework suggests that these opportunity structures may be regarded also as decision-making structures that become increasingly unavailable with deprivation (2001). "Poverty is thus characterized not only by lack of assets and inability to accumulate a portfolio of assets, but also by lack of choice with respect to alternative coping strategies" (Rakodi 1995, 414). Thus, interpretations of multiple household resources must be cautiously understood as indicators of just how depleted *all* resources are within households (González de la Rocha 2001a, 2001b).[7]

DESCRIPTION OF THE DATA

The data for this study come from the Mexican Migration Project (MMP71). The data comprise a large random sample of over 11,000 households in 71 communities across Mexico and include a diverse range of community sizes and industry specific labor markets, from primarily agricultural to heavily industrial. Ordinary least squares regression is used to decompose mean differences across types of capital by household type.

Female-heads of households were identified by first selecting out all respondents who identified themselves as the head of household, and then selecting out women who were divorced/separated, widowed, or

5. See González de la Rocha (2003) for her argument regarding the "myth of survival," which borrows from her previous work on the "resources of poverty" versus "poverty of resources" critique (2001a, 2001b).

6. See González de la Rocha (2001a, 2001b) for this critique.

7. González de la Rocha (2001a, 2001b) further suggests that mass resource depletion has resulted in alternate strategies, or "post-coping strategies," for households, including increasing workers or the amount of work done by household members, and reducing overall consumption.

never married from this group.[8] The total sample of 1,332 female-headed households was then divided into three theoretically distinct age categories. These groups represent female-heads roughly of childbearing age (ages 18–44), those who are middle-aged (ages 45–59), and elderly female-heads (ages 60 and older).[9] These three categories rendered a comparable distribution of households across comparison groups, with a final sample of 304 female-heads 18–44 years old, 459 female-heads 45–59 years old, and 569 female-heads 60 and older.

DESCRIPTION OF METHODS AND HYPOTHESES

In order to understand to what degree resource accumulation varies and is affected by old age, three dummy variables were created to represent the age-categories of 18–44, 45–59, and those 60 and older.[10] To adequately compare resource holdings across age groups, the regression analysis was first run with female-heads ages 18–44 as the omitted category, and then rerun with female-heads 60 and older as the omitted category.

Regarding these holdings, female-headed households are compared across five different measures of capital: monetary capital, two types of physical capital, social capital, and human capital. Monetary capital is evaluated in terms of per capita income. Per capita income is used because it is critical to assess the divided impact of income across total number of household members. An income of $5,000 pesos a year means something different in a household of two than, for example, a household of ten. The per capita income measure used here reflects the head of household's income divided by the total number of household members.[11] In terms

8. The self selection of heads of households raises an important caveat regarding how respondents define this term. For example, Rosenhouse (1989) cautions that the identification of the headship in households may not always truly represent the roles and responsibilities associated with headship, per se. This issue is addressed in greater length in the discussion section.

9. In terms of analysis, defining "elderly" is largely a subjective consideration. Mexicans are eligible to receive Seguro Social at the age of 65. However, the Mexican Census (Instito Nacional Estadística e Geografia Informática [INEGI]), distinguishes population statistics based on those who are over the age of 60, and Mexico's national demographic survey on aging (La Encuesta Nacional Seroepidemiológica, ENSE) also employs 60 as the age cutoff. The analysis for this study follows these latter precedents.

10. Though this study attempted to isolate female-headed households by marital status, this is by no means an error-proof design. It cannot be guaranteed that there is not actually a male partner who, perhaps as a migrant worker, is not physically present in the household but contributes remittances. This issue is addressed more fully in the "Discussion and Future Research" section.

11. Although total household income would function as a better numerator for this measure, the only household income data reported in the MMP71 is income of the household head.

of age, we might expect as earning potential declines later in life that female-heads 60 and older will lag behind those female-heads ages 18–44 and 45–59 in levels of per capita income.

Two different scales of physical capital are used given that physical capital can pertain to everyday appliances that are fairly accessible, such as a refrigerator or stove, and also to expensive, less accessible items like cars or real estate.[12] Thus, one scale evaluates the degree to which a household contains eight items regarded as "household amenities": running water, electricity, sewer system, stereo, stove, refrigerator, sewing machine, and television. A second scale contains four items to evaluate the holdings of consumer durables—owning a car, multiple cars, property (not including one's home), and a business. The range of scores for scale 1 is 0–8, and the range for scale 2 is 0–4. As technology and mass production have decreased the cost of everyday amenities, we might expect more of these items to be present in the homes of younger female-heads, ages 18–44. Though, we might presume that age favors the accumulation of consumer durables over time, thereby suggesting greater levels of this type of physical capital among female-heads 44–59 years of age, and 60 and older, over those female-heads ages 18–44.

Social capital is measured here in terms of the number of wage earners present in the household. This measurement is not argued to be fully indicative of social capital processes. However, the vision of social capital should not be limited to networks that exist primarily outside a household, especially in a setting like Mexico where households are often more than single family dwellings. In this manner, the number of household workers is used here as a way to address the pecuniary benefit of living with wage-earners, familial or not, who can contribute to household expenses. Following the finding that as households become more disadvantaged they become more isolated from support networks (González de la Rocha and Gantt 1995; 2001a, 2001b; Moser 1998), and the cohort potential for female-heads ages 18–44 and 45–59 to be more closely connected to people in their prime working years, it is hypothesized the female-heads ages 60 and older will have the least amount of household wage earners.

Finally, human capital is often measured by educational attainment. Despite the fact that Mexican women still lag behind men in educational attainment to a certain degree, there has been a significant increase in

12. A LISREL confirmatory factor analysis substantiated the use of two factors as the best fit to the data. Dividing variables into more than two factors produced high inter-correlations among latent variables. Although a one-factor model, using only one scale to represent physical capital, would have theoretically been the most parsimonious, the significantly smaller chi-square of the two-factor model suggests more than one factor fits the data best. Additionally, this two-factor model, using two scales, produced a reasonably low correlation (.65) between the two latent constructs.

women's educational opportunities since the 1970s (Parrado and Zenteno 2002). Given the relatively recent improvement in access to education, it is hypothesized that female-heads of households 18–44 will have significantly higher levels of educational attainment than their counterparts ages 45–59 and 60 and older.

To reduce the risk of models being mis-specified, a number of control variables have been included. Control variables include the year the survey was taken, community type,[13] age variation within the three dummy categories, and home ownership.[14] The head of household's occupation type is included as a control for differences across the female-heads of working age and because it is not assumed that female-heads age 60 and older have quit working.[15] The receipt of remittances is controlled for in the models, and is also interacted with age to estimate any additive effect of the receipt of remittances by each age group on resource holdings.[16]

Because children can provide an important source of additional income, the presence of a child or children over the age of 13 is controlled. Likewise, the potential added expense of younger children, more likely to be found in homes with female-heads ages 18–44, is also controlled.[17] The total number of household members is also included in all models except per capita income, because this variable is used to compute the income measure. Finally, because the data spans the years 1987 to 1997,

13. Dummy variables were created to control for variance in community setting following the MMP coding system for communities. The MMP classifies a "metropolitan area" as having more than 100,000 inhabitants; a "smaller city," 15,000–100,000 inhabitants, a "town," 2,500–15,000 inhabitants, and a "rancho" as having less than 2,500 inhabitants.

14. Because home ownership may act as an indicator of both income and physical capital, a control variable for ownership of one's current residence has been included in these particular models. A dichotomous dummy variable was created to present whether someone did or did not own their current residence. There is no theoretical reason to suggest home ownership impacts social or human capital, so this control variable has been omitted for these models.

15. Occupation was controlled for using a series of nine occupational dummy variables, including in indicators for whether the household head reported receiving either retirement benefits or unemployment benefits.

16. In the study, income is reported in pesos and remittances are reported in U.S. dollars. In order to preserve continuity and accuracy of interpretation, a dollar-to-peso conversion was calculated for each year of the study to convert the remittances measure to pesos. Both per capita income and remittances are represented in Mexican pesos. Additionally, there is no theoretical justification for including remittances in models of social capital and human capital. Therefore this variable and the corresponding interaction term have been omitted from these models.

17. Thirteen years of age is used to divide categories following coding from the MMP. The MMP measures the presence of children in the household according to whether the household has "no children," "some children under the age of 13," "some children are teenagers," "all children are teenagers," or "all children are adults." Any children noted below the age of 13 are designated in this project as "younger children," whereas any or all children noted as teenagers are designated here as "older children."

a variable was created to control for any economic changes created by the implementation of NAFTA in 1994.[18]

RESULTS

Descriptive Findings

Tables 1 and 2 report mean differences between age categories of female-heads of households; table 1 reflects differences with female-heads ages 18–44 as the omitted category, and table 2 reflects differences with female-heads 60 and older as the omitted category. First in terms of characteristics of household composition, there is a relatively low average age span across the age categories, from youngest to oldest—37, 52, and 70 years of age, respectively. Female-heads ages 18–44 report the greatest amount of household members with an average of 4.5 members, while female-heads 60 and older category report the least. There is not a significant difference in the number of children under the age of 13 or 13 and older in households with female-heads ages 18–44 or 45–59 years of age, but both of these groups have higher numbers of younger and older children than female-heads 60 and older. Female-heads ages 18–44 are also significantly less likely to own their home than female-heads 45–59 and 60 and older. Additionally, female-heads ages 18–44 and 45–59 are more likely than their older counterparts to be located in metropolitan areas, whereas female-heads who are 60 and older are more likely than these groups to be located in towns. All age categories of female-heads are equally likely to live in small cities or ranchos.

In terms of occupational differences, female-heads ages 18–44 are the least likely to be receiving unemployment benefits and to categorize themselves as retired, but are most likely to report working in professional, service, or unskilled occupations. Conversely, female-heads 60 and older are most likely to be receiving unemployment benefits, and the least likely to categorize their occupation as agricultural, skilled, or clerical. There is no significant difference between female-heads 45–59 and those 60 and older in their likelihood of being retired, and there are no significant differences across any of the age categories in the likelihood of working in a managerial occupation.

Regarding trends across types of resource capital, mean differences indicate female-heads 18–44 years of age have significantly higher levels of per capita income, remittances, and education than female-heads 45–59 or 60 and older. Despite these advantages, female-heads 18–44 also report the lowest amount of household amenities (no significant difference is found between female-heads 45–59 and 60 and older).

18. This "Post-NAFTA" variable is included in regression tables 3 and 4 to control for effects on monetary and physical capital. This variable is not included in table 5 because there is no theoretical justification for its effect on human or social capital attainment.

Table 1 Mean Differences[‡]: Female-Headed Households, Ages 18–44 [†] Versus Ages 45–59, and 60 and Older (N=1332)

Types of Capital	18–44	45–59	60 and Older
Per Capita Income[◊] (Monetary Capital)	48016.339 (5769.940)	27185.015*** (7439.216)	27887.660** (7146.97)
Household Amenities (Physical Capital)	4.605 (.118)	4.987* (.152)	4.935(.146)
Consumer Durables (Physical Capital)	.408 (.041)	.599*** (.053)	.483 (.051)
Number of Workers in Household (Social Capital)	1.447 (.070)	1.647* (.091)	1.045*** (.087)
Education Level of Household-Head (Human Capital)	5.980 (.201)	3.366*** (.259)	2.462*** (.249)
Control Variables			
Age of Household-Head	36.345 (.357)	52.333*** (.460)	70.127*** (.442)
Received Unemployment Compensation	.240 (.026)	.475*** (.034)	.757*** (.032)
Retired	.000 (.008)	.022* (.010)	.030** (.010)
Professional	.138 (.013)	.046 (.017)	.030 (.017)
Manager	.007 (.005)	.011 (.006)	.004 (.006)
Agriculture	.030 (.008)	.024 (.010)	.009* (.008)
Skilled Manufacturer	.043 (.009)	.035 (.012)	.014 (.012)*
Unskilled Manufacturer	.069 (.009)	.017*** (.011)	.007*** (.011)
Service	.230 (.019)	.165* (.025)	.061*** (.024)
Clerical/Sales	.194 (.020)	.185 (.026)	.084*** (.025)
Total Number of House-hold Members	4.447 (.125)	4.015** (.162)	2.881*** (.155)
Child(ren) (under age 13) in Household	.286 (.013)	.007*** (.016)	.002*** (.016)
Teenager(s) (over age 13) in Household	.609 (.024)	.558 (.031)	.080*** (.029)
Own Residence	.539 (.026)	.708*** (.034)	.762*** (.032)
Metropolitan City	.342 (.025)	.296 (.033)	.206*** (.031)
Small City	.257 (.026)	.271 (.033)	.282 (.026)
Town	.250 (.026)	.296 (.034)	.334** (.033)
Rancho	.151 (.021)	.137 (.027)	.179 (.026)
Remittances[◊]	67.400 (15.861)	33.806 (20.449)	7.005** (14.646)

* p< .05; ** p< .01; *** p< .001 (2-tailed), [‡] Standard errors in parentheses, [†] Omitted category

[◊] Income and remittances are given in pesos per month

Table 2 *Mean Differences[‡]: Female-Headed Households 60[†] Years of Age and Older Versus Ages 18–44, and 45–59 (N=1332)*

Types of Capital	18–44	45–59	60 and Older
Per Capita Income[◊] (Monetary Capital)	48016.339** (7146.975)	27185.015 (6311.639)	27887.660 (4217.469)
Household Amenities (Physical Capital)	4.605* (.146)	4.987 (.129)	4.935 (.086)
Consumer Durables (Physical Capital)	.408 (.051)	.599** (.045)	.483 (.030)
Number of Workers in Household (Social Capital)	1.448*** (.087)	1.647*** (.077)	1.046 (.051)
Education Level of Household-Head (Human Capital)	5.980*** (.249)	3.366*** (.220)	2.462 (.147)
Control Variables			
Age of Household-Head	36.645*** (.442)	52.234*** (.391)	70.127 (.261)
Received Unemployment Compensation	.240*** (.032)	.474*** (.029)	.759 (.019)
Retired	.000** (.010)	.022 (.009)	.030 (.006)
Professional	.138*** (.017)	.046 (.015)	.030 (.010)
Manager	.007 (.006)	.011 (.005)	.004 (.003)
Agriculture	.030* (.010)	.024 (.009)	.009 (.006)
Skilled Manufacturer	.043* (.012)	.035* (.010)	.014 (.007)
Unskilled Manufacturer	.069*** (.011)	.017 (.010)	.007 (.006)
Service	.231*** (.024)	.166*** (.021)	.062 (.014)
Clerical/Sales	.194*** (.025)	.185*** (.022)	.084 (.015)
Total Number of Household Members	4.476*** (.155)	4.015*** (.137)	2.880 (.092)
Child(ren) (under age 13) in Household	.286*** (.016)	.009 (.014)	.002 (.009)
Teenager(s) (over age 13) in Household	.608*** (.029)	.558*** (.026)	.079 (.017)
Own Residence	.540*** (.032)	.708 (.028)	.763 (.019)
Metropolitan City	.342*** (.031)	.297** (.028)	.206 (.018)
Small City	.256 (.032)	.270 (.028)	.281 (.019)
Town	.250** (.033)	.296 (.029)	.334 (.019)
Rancho	.151 (.026)	.137 (.023)	.179 (.015)
Remittances[◊]	67.400** (19.646)	33.807 (17.350)	7.005 (11.593)

* $p < .05$; ** $p < .01$; *** $p < .001$ (2-tailed), [‡]Standard errors in parentheses, [†]Omitted category
[◊] Income and remittances are given in pesos per month

Female-heads ages 45–59 demonstrated some relative capital advantage over the other age groups. These female-heads demonstrated the highest levels of consumer durables and real estate, and also the highest number of household workers compared to the female-heads 18–44 and those 60 and older. Female-heads 60 years of age and older show the greatest amount of relative *disadvantage* across mean resource differences, having significantly less education and fewer household workers than female-heads ages 18–44 and 45–59. Beyond this, however, mean differences in resource holdings show no consistent trends of advantage or disadvantage across the three age groups.

Regression Results: The Effects of Age on Resource Accumulation

The regression results, like mean differences, are similarly inconclusive regarding levels of relative deprivation. For example, table 3 shows that the per capita advantage of female-heads ages 18–44 over female-heads ages 45–59 and 60 and older is not significant with the addition of controls. The net effects model shows there are no significant differences between any of the age groups regarding monetary capital. In the additive model that includes the interaction of age and remittances, the interaction term for female-heads who are 60 and older and the receipt of remittances is significant and positive (see table 3, column 1). Because remittances are shown to have a positive main effect, the interaction effect suggests this positive effect is increased when the female head of the household is 60 or older. Therefore, the receipt of remittances is associated with higher levels of per capita income when the household is headed by a woman 60 or older, though not enough to significantly advantage their income above female-heads ages 18–44 and 45–59.

In terms of physical capital, the zero-order deficit in household amenities among households headed by women ages 18–44 is no longer significant when controls are added (see table 4, columns 1 and 2). Ultimately, there are no significant differences in household amenities across the age groups, net of controls.

Looking at table 4, columns 3 and 4 differences do emerge regarding consumer durables and real estate, however. By rotating the omitted category, we can see that female-heads ages 18–44 have significantly less of this type of physical capital than female-heads ages 45–59 and also those 60 and older, net of controls. No significant difference is found, however, between female-heads ages 45–59 and those 60 and older in their levels of household amenities. No interaction effects are found in the models for either household amenities or physical capital, when female-heads ages 18–44 are the omitted category, nor when female-heads 60 and older are the omitted category (see table 4). The first resource difference that emerges, therefore, is that female-heads

Table 3 Monetary Capital: Regression Results by Age of Female-Headed Household (60 and Older, 45–59 Years of Age, 18–44 Years of Age) for Per Capita Income.

	18–44, Omitted Category	60+ Omitted Category
Female-Headed Households ages 60 and older	-7300.125	—
Female-Headed Households Ages 18–44	—	7300.125
Female-Headed Households ages 45–59	-8820.466	-1520.342
Year of Survey	6884.582***	6884.582***
Age	-489.722	-489.722
Occupation		
Retired	61917.977***	61917.977***
Professional	68030.972***	68030.972***
Managerial	-14490.110	-14490.110
Agriculture	25250.659	25250.659
Service	25855.902**	25855.902
Skilled Manual Worker	23243.079	23243.079
Unskilled Manual Labor	17504.141	17504.141
Clerical/Sales	38116.244***	38116.244***
Community Type		
Town	-248.964	-248.964
Small City	25113.670**	25113.670**
Metropolitan	-5153.773	-5153.773
Teenager(s) in Household (over age 13)	-26686.84***	-26686.84***
Child(ren) in Household (under age 13)	-7716.807	-7716.807
Total Household Members	—	—
Own Residence	-10372.150	-10372.150
Post-NAFTA	106745.900***	106745.900***
Remittances	3.077	3.077
60 and older (*) Remittances	333.065*	—
18–44+ (*) Remittances	—	-109.060
45–59 (*) Remittances	-15.405	-100.569
Constant	.0007	
R/Adjusted R	.210/ .198	

* $p < .05$; ** $p \leq .01$; *** $p < .001$ (2-tailed)

Table 4 Physical Capital: Regression Results by Age of Female-Headed Household (60 and older, 45–59 yrs. of age, 18–44 yrs. of age) for Household Amenities, and Consumer Durables and Real Estate.

	Household Amenities: 18–44, omitted category	Household Amenities: 60 and older, omitted category	Consumer Durables and Real Estate: 18–44, omitted category	Consumer Durables and Real Estate: 60 and older, omitted category
Female-Headed Households 60 and older	.065	—	.286**	—
Female-Headed Household 18–44 yrs.	—	-.065	—	-.286**
Female-Headed Household 45–59 yrs.	.153	.089	.215**	-.071
Year of Survey	.089**	.089**	.010	.010
Age	-.006	-.006	-.006*	-.006*
Occupation				
Retired	1.382***	1.382***	.321*	.321*
Professional	.477*	.477*	.190*	.190*
Managerial	.218	.218	.674**	.674**
Agriculture	-.790*	-.790*	.034	.034
Service	-.977***	-.977***	.058	.058
Skilled Manu.	.000	.000	.185	.185
Unskill. Manu.	-.196	-.196	-.069	-.069
Clerical/Sales	.596	.596	.798***	.798***
Community Type				
Town	.927***	.927***	.100	.100
Small City	1.484***	1.484***	.063	.063
Metropolitan	1.907***	1.907***	.114	.114
Total Household Members	.012	.012	.041***	.041***
Teenager(s) (over age 13) in Household	-.431**	-.431**	-.129*	-.129*
Own Residence	.393	.393	.129**	.129**

(table 4 concludes on page 197)

	Household Amenities: 18–44, omitted category	Household Amenities: 60 and older, omitted category	Consumer Durables and Real Estate: 18–44, omitted category	Consumer Durables and Real Estate: 60 and older, omitted category
Post-NAFTA	-.303	-.303	-.135	-.135
Remittances	.000	.000	.000	.000
60+ (*) Remittances	.004	—	.000	—
18–44+ (*) Remittances	—	-.003	—	.000
45–59 (*) Remittances	.000	-.005	.002*	.002
Constant	66.309	66.634	-19.129	-18.843
R/Adjusted R	.189/.176	.189/.176	.184/.171	.184/.171

* p< .05; ** p< .01; *** p< .001 (2-tailed)

ages 18–44 lag behind their older counterparts in terms of levels of consumer durables and real estate.

The results of age and female-headship on social capital and human capital are presented in table 5. Mean differences indicate that female-heads who are 60 and older lag behind their younger counterparts on both of these resources. Once controls have been added, we see that in terms of educational differences, female-heads ages 18–44 have significantly higher levels of education than female-heads ages 45–59, but not significantly more than female-heads 60 and older. There is no significant difference in educational attainment between female-heads ages 45–59 and those 60 and older (see table 5, columns 1 and 2). The second resource difference is that female-heads ages 18–44 lead their middle-aged counterparts in terms of educational attainment.

The zero-order differences for social capital indicated that while the oldest category of female-heads had the least amount of social capital, the middle-age category also had the most. Net of controls, we find that it is actually female-heads ages 18–44 who have the fewest wage earners in the household. There is no significant difference between the number of wage earners in households headed by women ages 45–59 and those headed by women 60 and older. Therefore, net of other factors, while the youngest female-heads have a slight advantage over their 45–59 year-old counterparts in education, they also lag behind both of the other age groups with regard to household wage earners and consumer durable and real estate.

Table 5 Human Capital and Social Capital: Regression Results by Age of Female-Headed Household (60 and older, Ages 45–59 and 18–44) for Educational Attainment and Total Number of Wage-Earners in the Household.

	Educational Attainment: 18–44, omitted category	Educational Attainment: 60 and older, omitted category	Number of Household Wage-Earners: 18–44, omitted category	Number of Household 60 and older, omitted category
Female-Headed Households 60 and older	-.854	—	.325*	—
Female-Headed Households ages 18–44	—	.854	—	-.325*
Female-Headed Households ages 45–59	-1.031***	-.177	.395***	.070
Year of Survey	.179***	.179***	-.033*	-.033*
Age	-.064***	-.064***	-.001	-.001
Occupation				
Retired	4.418***	4.418***	-.024	-.024
Professional	5.039***	5.039***	.873***	.873***
Managerial	3.309***	3.309***	.594*	.594*
Agriculture	-.843	-.843	.940***	.940***
Service	-.874***	-.874***	.754***	.754***
Skilled Manual Worker	.556	.556	.751***	.751***
Unskilled Manual Worker	-.286	-.286	.371*	.371*
Clerical/Sales	1.438***	1.438***	.854***	.854***
Community Type				
Town	.895***	.895***	-.062	-.062
Small City	1.783***	1.783***	-.045	-.045
Metropolitan	2.117***	2.117***	.016	.016
Teenager(s) (over age 13) in Household	-.451	-.451	-.264***	-.264***
Child(ren) in Household (under age 13)	1.276**	1.276**	-.568***	-.568***

	Educational Attainment: 18–44, omitted category	Educational Attainment: 60 and older, omitted category	Number of Household Wage-Earners: 18–44, omitted category	Number of Household 60 and older, omitted category
Total Household Members	-.133***	-.133***	.372***	.372***
Constant	-350.313	-351.167	66.309	66.634
R/Adjusted R	.404/.395	.404/.395	.516/.509	.516/.509

* $p < .05$; ** $p < .01$; *** $p < .001$ (2-tailed)

DISCUSSION AND SUGGESTIONS FOR FUTURE RESEARCH

By way of summary, this analysis finds that across multiple types of resources, it is the youngest female-heads of households, ages 18–44 years of age, that trail behind their older counterparts in two out of five resource measurements—number of household wage earners (social capital), and consumer durables and real estate (physical capital). Nevertheless, this age group also has a resource *advantage* over the other two age groups in terms of educational attainment (human capital). And no significant differences were found between female-heads ages 45–59 and those 60+ across any resources, net of controls. Thus, although younger female-heads of households may face some degree of resource deprivation, there is no clear trend of resource advantage or disadvantage that emerges across any of the three age groups—at least in terms of comparison across resources. The degree to which having more or less of a resource actually impacts life is an entirely different matter though, and it is one that cannot be addressed here.

So how can we interpret these findings in terms of vulnerability frameworks? This analysis suggests that while age (and aging) is certainly a salient variable within gender socialization and life-course issues, it may not be quite the harbinger of deprivation for women in Mexico that we have come to be wary of in the United States (see Bianchi 1999; McLanahan, Sorenson, Watson 1989; Vartanian and McNamara 2002). Aging among female-heads of households does not suggest, by itself, the need to develop a unique set of vulnerability frameworks. However, the pattern of resource accumulation across houses, found to vary here between the youngest households and those who are middle aged and older, suggests the importance of being cognizant of the heterogeneity of female-headed households in poverty research.

Additionally, three points of discussion emerge at the end of this study. First, the net shortfall in household wage earners within households

headed by women ages 18–44 is a curious and unsuspected finding. It was thought that these households would demonstrate relatively higher levels of this measurement of social capital, at least compared to of female-heads of households 60 and older. Yet, female-heads ages 18–44 showed significantly fewer household wage earners than both of the comparison groups.

It may be that the youngest female-heads of households lack social capital, or it may be that they have help that could not be measured here. Scholars have noted that it is important to measure kinship location when evaluating the amount help elderly female-heads of households get from family members (see for example Varley and Blasco 2003 and González de la Rocha 1998). Perhaps gauging kinship location is relevant for evaluating all ages of female-heads of households. More to the point, female-headship in Mexico is impacted by formation of households that are both de facto female-heads and de jure. The respective difference is that de facto female-headed households are created when a male-head actually exists but has migrated, and de jure households represent those that are truly governed (economically and in decision-making) by a woman. Thus when evaluating household wage-earners it cannot be presumed that wage-earners exist only in-house. So while female-heads ages 18–44 in this study appear to lack household wage earners, it is difficult to know the degree to which location has impacted this measure.[19]

The preceding discussion of household wage earners raises the second point of discussion: measuring social capital. The variable for social capital use here does not purport to be the most complete assessment of this construct. Social capital is generally conceived of as the ways that people are aided by their social contacts, whether it is for money, housing, job contacts. Additionally for female-heads of households, social capital could be more largely thought of as a form of social help, such as with child care, and domestic labor. Fully assessing social capital means obtaining better data on these forms, likely in the manner of "rich ethnographic detail" as advocated by González de la Rocha (2001b, 3).

Any discussion of female-headed households must also address the way in which these households are isolated and defined. As mentioned above, isolating de jure female-heads from de facto female-heads of households is a complicating factor when one undertakes this kind of research. Additionally, the literature has suggested female-headed households are likely to "blend" with other homes, especially older female-heads (Bradshaw 1995; De Vos 2000; De Vos et al. 2001). Thus

19. Indeed, all age categories of female-headed households studied here could be impacted by this issue.

one of the most problematic aspects of studying any grouping of female-headed households is that they can go undetected. And to complicate the above points regarding the measurement of social capital, it could be further argued that whether they integrate into existing households or are being aided by migrant labor, those female-heads most proficient at using certain forms of social capital are least likely to be recognized.

Beyond isolating female-headed households, there remains the issue of how headship is conceptualized and defined. For example, cohort effects are likely to play a role in how we conceptualize groups of female-heads. This is to say that while female-headship may be a commonality across age groups, their reasons for being heads of households are likely to be quite different. The inclination is to suggest that young female-heads are the result of never having been married or divorced while those who are older are the products of widowhood. However this is only an assumption, and certainly abandonment is likely a factor of headship across all age groups. The issue of cohort effects actually highlights that much more can be done with age, and life-course distinctions. For example, changes in marital status or the absence of children may be salient demarcations to investigate. Furthermore, it is similarly important to understand how variations in marital status impact resource holdings in female-headed households.

Additionally, research has also suggested that the global definition of a "head of household" is more varied than we may think, or hope. In demographic research the head of household is meant to signify the person who is responsible primarily for the household's security—financially and through decision-making. But such a straightforward distinction is complicated in places like Mexico where multiple wage earners are present and where multiple decision makers govern the distribution of household resources (see Rosenhouse 1989 and Folbre 1991). Indeed, Rosenhouse's study on this issue found a significant proportion of female household heads were not actually the primary wage earners, nor were they explicitly responsible for decision-making regarding economic resources. This study's isolation of female-heads of households cannot discount that respondents, who identified themselves as the household head, were operating under an alternative definition of headship. Ultimately, understanding the factors that both produce and define de jure female-heads of households represent the most difficult, and critical, elements of future research.

Nevertheless, as researchers gather both qualitative and quantitative data to evaluate female-headed households, and as these analyses become better defined, we will be better able to explore the extent of vulnerability within these households. As illuminating as it is to understand what old age is in the context of womanhood and economics, it is also important to understand what it is not. Only by employing

both multidimensional resource models and heterogeneous samples will we be able to accurately assess and monitor the global rise of this demographic. In the end, to understand the complexity of household resources and the nature of deprivation demands not just our attention as scholars, but our innovation as researchers.

REFERENCES

Bianchi, Susan
    1999   "Feminization and Juvenilization of Poverty: Trends, Relative Risks, Causes and Consequences." *Annual Review of Sociology* 25: 307–333.
Bradshaw, Sarah
    1995   "Female-Headed Households in Honduras: Perspectives on Rural-Urban Differences." *Third World Planning Review* 17(2): 117–131.
Buvinic, Mayra
    1997   "Women in Poverty: A New Global Underclass." *Foreign Policy* 108: 38–54.
Buvinic, Mayra, and Geeta Rao Gupta
    1997   "Female-Headed Households and Female-Maintained Families: Are They Worth Targeting to Reduce Poverty in Development Countries?" *Economic Development and Cultural Change* 42 (2): 259–280.
Chant, Sylvia
    1997   "Women-Headed Households: Poorest of the Poor?: Perspectives from Mexico, Costa Rica and the Philippines." IDS Bulletin 28 (3): 26–48.
    1999   "Women-headed Households: Global Orthodoxies and Grassroots Realities." In *Women, Globalization, and Fragmentation in the Developing World,* edited by Haleh Afshar and Stephanie Barrientos. New York: St. Martin's Press.
    1985   "Single-Parent Families: Choice or Constraint? The Formation of Female-Headed Households in Mexican Shanty-Towns." *Development and Change* 16: 635–656.
    2003   "Female Household Headship and the Feminisation of Poverty: Facts, Fictions and Forward Strategies." Working Paper Series No. 1470–8515. London: London School of Economics Gender Institute.
    2004   "Dangerous Equations? How Female-Headed Households Became the Poorest of the Poor: Causes, Consequences and Cautions." *IDS Bulletin* 35 (4): 19–26.
Cutler, David, Felicia Knaul, Rafael Lozano, Oscar Mendez, and Beatriz Zurita
    2002   "Financial Crisis, Health Outcomes and Aging: Mexico 1980–1990s." *Journal of Public Economics* 84 (2): 279–304.
De Vos, Susan
    2000   "Kinship Ties and Solitary Living Among Unmarried Elderly Women in Chile and Mexico." *Research On Aging* 22 (3): 262–290.
De Vos, Susan, Patricio Solís, and Verónica Montes de Oca
    2001   "Receipt of Instrumental Assistance and Extended Family Residence Among Elders in Mexico." CDE Working Paper No. 2001–18. Center for Demography and Ecology. University of Wisconsin.
Folbre, Nancy
    1991   "Women On Their Own: Global Patterns of Female-headship." Washington DC: International Centre for Research on Women.
Fuwa, Nobuhiko
    2000   "The Poverty and Heterogeneity among Female-Headed Households Revisited: The Case of Panama." *World Development* 28 (8): 1515–1542.
García, Brígida, and Olga Rojas
    2001   "Recent Transformations in Latin American Families: A Socio-Demographic Perspective." XXIV General Conference of IUSSP. Salvador, Brazil.

Gomes da Conceição, Maria Cristina
    2003   "Households and Income: Aging and Gender Inequalities in Brazil and Columbia." In *Through the Eyes of Women: Gender, Social Networks, Family, and Structural Change in Latin America and the Caribbean*, edited by Cecilia Menjívar. Ontario, Canada: De Sitter Publications.
González de la Rocha, Mercedes
    1998   "The Erosion of a Survival Model: Urban Household Responses to Persistent Poverty." Papers on Latin America Series #47. Columbia University: Institute of Latin American and Iberian Studies.
    2001a   "From the Resources of Poverty to the Poverty of Resources? The Erosion of a Survival Model." *Latin American Perspectives* 28 (4):72–100.
    2001b   "Are Poor Households Coping? Assets, Vulnerability, and Decreasing Opportunities." *Development and Society* 30 (2): 1–40.
    2003   "Construction of the Myth of Survival." Paper prepared for the International Workshop "Gender Myths and Feminist Fables: Repositioning Gender in Development Policy and Practice." Institute of Development Studies. University of Sussex, England.
González de la Rocha, Mercedes, and Barbara B. Gantt
    1995   "The Urban Family and Poverty in Latin America." *Latin American Perspectives* 22 (2): 12–31.
INEGI (Instituto Nacional de Estadística, Geografia e Informática).
    2000   www.inegi.gob.mx/
Jackson, Cecile
    1996   "Rescuing Gender from the Poverty Trap." *World Development* 24 (3): 489–504.
Lloyd, Cynthia
    1998   "Household Structure and Poverty: What are the Connections?" in *Population and Poverty in the Developing World*, edited by M. Livi-Bacci and G. De Santis, 84–102. Oxford: Clarendon Press.
Marcoux, Alain
    1998   "The Feminization of Poverty: Claims, Facts, and Data Needs." *Population and Development Review* 24 (1): 131–139.
McLanahan, Sara, Annemette Sorenson, and Dorothy Watson
    1989   "Sex Differences in Poverty, 1950–1980." *Signs* 15 (1): 102–122.
Moore, Henrietta L.
    1996   "Mothering and Social Responsibilities in a Cross-Cultural Perspective." In *Good Enough Mothering: Feminist Perspectives on Lone Motherhood*, edited by Elizabeth Bortolaia Silva. New York: Routledge.
Moser, Caroline
    1998   "The Asset-Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies." *World Development* 26 (1): 1–19.
Parrado, Emilio A., and Rene M. Zenteno
    2002   "Gender Differences in Union Formation in Mexico: Evidence From Marital Search Models." *Journal of Marriage and the Family* 64 (3): 756–774.
Psacharopoulos, George, and Carolyn Winter
    1992   "Women's Employment and Pay in Latin America." *Finance and Development* 29 (4): 14–15.
Rakodi, Carole
    1995   "Poverty Lines or Household Strategies?" *Habitat International* 19 (4): 407–426.
    2001   "Urban Governance and Poverty—Addressing Needs, Asserting Claims: An Editorial Introduction." *International Planning Series* 6 (4): 343–356.
    2002   "A Livelihood Approach-Conceptual Issues and Definition" in *Urban Livelihoods: A People Centered Approach to Reducing Poverty* by Carole Rakodi and Tony Lloyd-Jones. London: Earthscan.
Razavi, Shahra
    1999   "Seeing Poverty Through a Gender Lens." *International Social Science Journal* 51 (4): 473–482.

Rosenhouse, Sandra
     1989   "Identifying the 'Poor': Is Headship a Useful Concept." Living Standards
                   Measurement Study. Working Paper No. 58. World Bank, Washington
                   D.C.
Varley, Ann
     2003   "Women Heading Households: Some More Equal than Others." *World
                   Development* 24 (3): 505–520.
Varley, Ann, and Maribel Blasco
     2003   "Older Women's Living Arrangements and Family Relationships in Urban
                   Mexico." *Women's Studies International Forum* 26 (6).
Vartanian, Thomas P., and Justine M. McNamara
     2002   "Older Women in Poverty: The Impact of Midlife Factors." *Journal of Mar-
                   riage and Family* 64 (2): 532–548.