

## **The Effect of Household Structure, Social Support, Neighborhood and Policy Context on Financial Strain: Evidence from the Hispanic EPESE**

**Background.** Recent evidence confirms that Hispanic life expectancy at age 65 is 20.1 years—approximately two years greater than for non-Hispanic Whites (Arias et al., 2010; Markides & Coreil, 1986), despite sharply lower average socio-economic status, impaired access to health care, and high prevalence of activities limitations and chronic disease (Aranda et al., 2011). Hispanics enter older age with substantially fewer financial, pensions, and housing assets compared to non-Hispanic whites, but must nurse these over a longer life course. These limitations of financial resources may be counter balanced by stronger instrumental support from family, a greater prevalence of married status, residence (for some) in lower cost of living areas, and lower subjective requirements for standard of living.

In this research, we address the question: what determines the subjective experience of financial strain among older Hispanics? Financial stress is a well-established correlate of subsequent poor physical health, including, for example, obesity and the development of metabolic syndrome (Angel, Frisco, Angel, & Chiriboga, 2003). We expected to—and do—find that measures of personal wealth and income are strongly associated with the subjective experience of financial strain. The goal of the research is to identify other personal and contextual variables that influence strain, including in particular measures of family structure, living arrangements and social support, and of neighborhood context of residence.

**Data and Methods.** Data are for respondents to the baseline interview of the Hispanic Established Populations for Epidemiologic Studies of the Elderly (H-EPESE), a representative sample of 3,050 community dwelling Mexican Americans age 65 or older, and living in one of five southwestern states (AZ, CA, CO, NM, TX). Respondents lived in one of 206 census tracts (1990) that were the primary sampling units for the study.

The outcome measure, Financial Strain, was operationalized by responses indicating 1) insufficient resources to pay all bills or 2) usually having no money at the end of the month.

Effects of independent variables at the individual level were included from 6 domains: 1) demographic characteristics (age, gender, education), 2) cultural (life stage of migration—childhood, adult, mature adult—vs. born in the United States; language of interview); 3) headship status/living arrangements (living alone, living with others as household head, living with others as non-head, vs. married couple household with no other household residents); 4) social support (being able to count on others); 5) health conditions (Rosow-Breslau Functional Health scale, Center for Epidemiologic Studies Depression (CES-D) score, and an index of self-reported chronic conditions) and 6) measures of financial variables (personal income, income from other household members, having a pension, stocks, or a savings account, receipt of general assistance, and value of owned house, vs. being a renter. Because of differences in cost of living across the study area (e.g. metropolitan Los Angeles vs. border Texas), income variables were normalized against the HUD designated fair market rent for a two bedroom apartment in 1993.

We used principal components analysis to identify 4 tract-level constructs characterizing the residential environment: 1) Barrio residence, characterized by high immigrant and Mexican American composition and Spanish language use; 2) high poverty concentration tracts; 3) rural tracts and 4) mature, stable tracts, characterized by a predominance of single family homes, older housing structures, and low rates of residential turnover.

Because the outcome was a self-report of financial strain, we excluded subjects who were assisted by a proxy respondent. All other (2,734) subjects were included in the analysis. Missing values were imputed using multivariate chained equation (mi impute chained) in STATA 12.0. Five imputed data sets were imported to HLM 7.0.

We estimated 2 level (individual, tract) mixed models for dichotomous outcomes, with random effects on the intercept for tracts. We report a model with fixed effects for all variables for all domains. Analysis in progress will examine a third level of income and social support measures dependent on state social welfare policy environments. We are also exploring the effects of spatial dependencies at local and region-wide scales on the observed relationships.

**Results.** General characteristics of the original cohort of the baseline EPESE respondents used for the analysis show that one-third of the sample was married and lived with their spouse only while almost 56% had a Mexican background but were born in the United States. Out of those who migrated, 23% moved in the middle stage of their life between ages 18 and 49. The cohort is extremely disadvantaged, with 46% reporting an annual income between \$5,000 and \$10,000 in 1993, and 80% reporting financial strain

Table 1 presents the results of a hierarchical linear model representing effects of four clusters of neighborhood characteristics. Each of the contextual measures—residence in a high poverty, ethnic enclave, rural, or stable/mature tract was associated with significantly increased strain, though the poverty measure was only marginally significant.

As expected, economic- and wealth-related conditions like having a savings account, investing on stocks, receive a pension, or increasing the personal income/fair market rent ratio reduced reported strain. Older age was strongly and monotonically associated with reduced strain, by as much 59% for those aged 85 or older, compared to respondents age 65 to 69. In contrast, mid-life immigration and use of Spanish language represent nearly 2 and 5 times higher financial strain impact, compared to the U.S.-born and English language users respectively.

Interestingly household structure measures were weakly associated with financial strain. The lowest level of self-reported strain—marginally significant when contrasted to persons living alone, pertained to persons who lived in households along with other family members than just a spouse, and who were not householders.

**Discussion.** The findings suggest that the strongest effects of individual characteristics pertain to a reduction of strain associated with increasing age, and an increase in strain associated with Spanish vs. English language use and (with mixed results) foreign-birth. The reason for the decline of strain with age (net of the influence of the controls) is not clear. We investigated the hypothesis that declining cognitive function as measured by the Mini-Mental Status Exam accounted for this effect, but neither control for MMSE nor exclusion of low scoring cases removed this effect. The effect of the ethnic variables at both the individual level and the contextual level (ethnic enclave) finds no protective effect of foreign-birth or residence in less assimilative environments, in contrast to the typical report of better physical and mental health associated with these variables (Eschbach et al., 2004). We also find modest relationships between family structure variables and social support and reduced strain. The modestly lower strain associated with status as a non-householder may reflect a reduced responsibility for financial decisions.

Work in progress investigates impact of state-level support policies, and effects of spatial dependencies on the observed relationships.

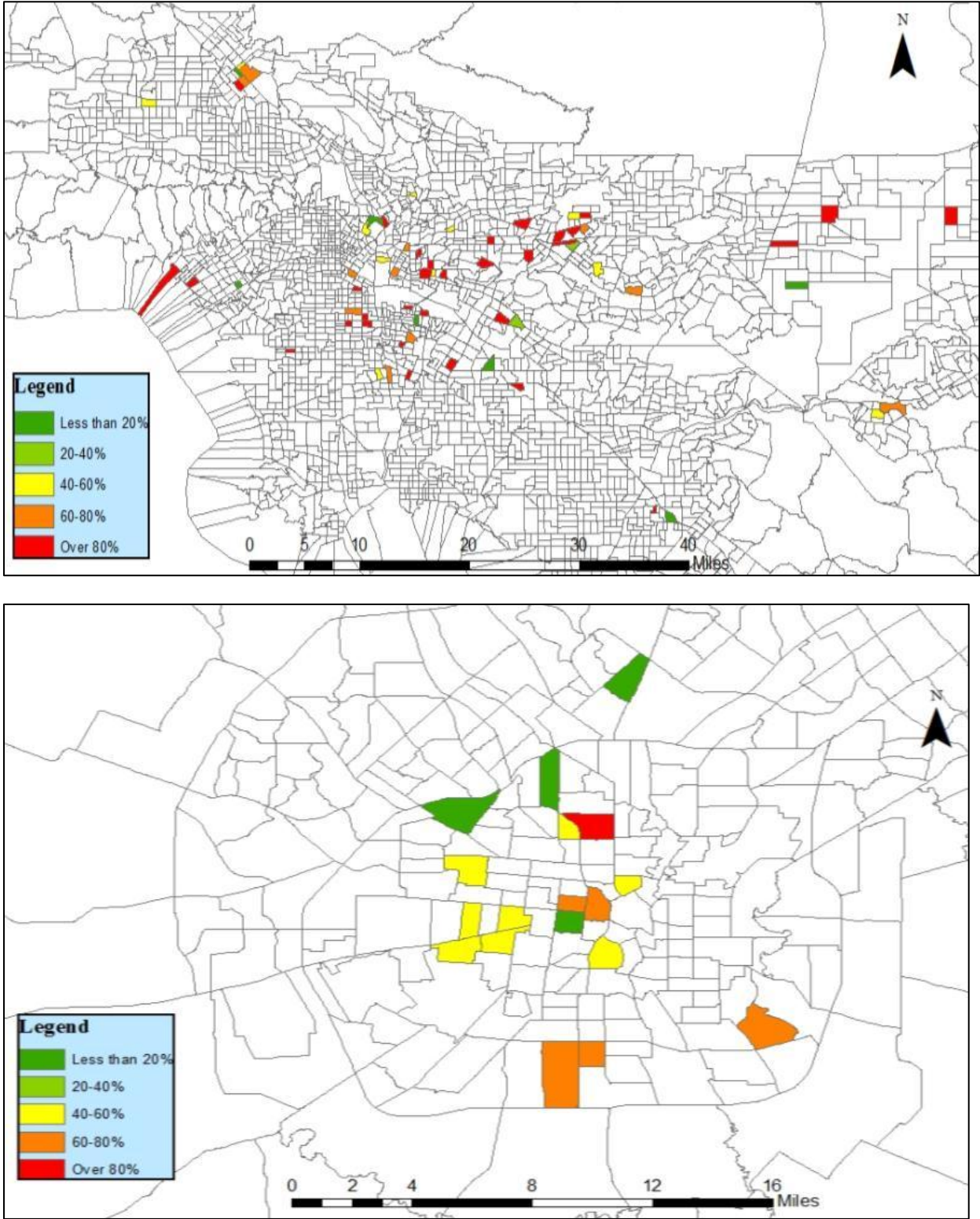
Table 1 – Hierarchical Linear Model of Financial Strain

Fixed Effect	Odds Ratio	Confidence Interval	Fixed Effect	Odds Ratio	Confidence Interval
For INTERCEPT Lv. 1, $\beta_0$			For LIVING WITH OTHERS AS NON-HEAD OF HOUSEHOLD slope, $\beta_9$		
Intercept Lv. 2, $\gamma_{00}$	8.26***	(3.16, 21.58)	Intercept Lv. 2, $\gamma_{90}$	0.61 <sup>†</sup>	(0.35, 1.07)
Barrio, $\gamma_{01}$	1.43**	(1.10, 1.86)	For SOCIAL SUPPORT slope, $\beta_{16}$		
Poor, $\gamma_{02}$	1.36 <sup>†</sup>	(0.99, 1.88)	Intercept Lv. 2, $\gamma_{160}$	0.98	(0.85, 1.13)
Rural, $\gamma_{03}$	1.64**	(1.18, 2.28)	For CHRONIC ILLNESSES slope, $\beta_{17}$		
Stable, $\gamma_{04}$	1.32*	(1.03, 1.68)	Intercept Lv. 2, $\gamma_{170}$	0.94	(0.77, 1.16)
For AGE 70-74 slope, $\beta_1$			For ROSOW-BRESLAU SCALE slope, $\beta_{12}$		
Intercept Lv. 2, $\gamma_{10}$	1.16	(0.75, 1.80)	Intercept Lv. 2, $\gamma_{120}$	1.30	(0.88, 1.93)
For AGE 75-79 slope, $\beta_2$			For CES-D SCORE slope, $\beta_{20}$		
Intercept Lv. 2, $\gamma_{20}$	0.83	(0.50, 1.36)	Intercept Lv. 2, $\gamma_{200}$	1.04***	(1.02, 1.06)
For AGE 80-84 slope, $\beta_3$			For PERSONAL INCOME / FMR slope, $\beta_{18}$		
Intercept Lv. 2, $\gamma_{30}$	0.49*	(0.28, 0.86)	Intercept Lv. 2, $\gamma_{180}$	0.90***	(0.86, 0.94)
For AGE 85+ slope, $\beta_4$			For SUPPLEMENTAL INCOME / FMR slope, $\beta_{19}$		
Intercept Lv. 2, $\gamma_{40}$	0.41*	(0.19, 0.90)	Intercept Lv. 2, $\gamma_{190}$	1.02	(0.99, 1.04)
For FEMALE slope, $\beta_5$			For PENSION slope, $\beta_{13}$		
Intercept Lv. 2, $\gamma_{50}$	0.81	(0.56, 1.17)	Intercept Lv. 2, $\gamma_{130}$	0.84	(0.55, 1.30)
For 6+ YEARS OF SCHOOLING slope, $\beta_{11}$			For STOCKS slope, $\beta_{14}$		
Intercept Lv. 2, $\gamma_{110}$	0.71 <sup>†</sup>	(0.49, 1.01)	Intercept Lv. 2, $\gamma_{140}$	0.44**	(0.24, 0.80)
For CHILDHOOD IMMIGRATION slope, $\beta_{24}$			For SAVINGS slope, $\beta_{10}$		
Intercept Lv. 2, $\gamma_{240}$	1.47	(0.82, 2.64)	Intercept Lv. 2, $\gamma_{100}$	0.28***	(0.16, 0.49)
For MID-LIFE IMMIGRATION slope, $\beta_{25}$			For ASSIST slope, $\beta_{15}$		
Intercept Lv. 2, $\gamma_{250}$	1.87**	(1.20, 2.92)	Intercept Lv. 2, $\gamma_{150}$	4.49 <sup>†</sup>	(0.86, 23.53)
For LATE LIFE IMMIGRATION slope, $\beta_{26}$			For OWNER – HOUSE LESS \$25,000 slope, $\beta_{21}$		
Intercept Lv. 2, $\gamma_{260}$	1.84	(0.84, 4.07)	Intercept Lv. 2, $\gamma_{210}$	1.11	(0.58, 2.12)
For SPANISH INTERVIEW slope, $\beta_6$			For OWNER – HOUSE \$50,000-\$100,000 slope, $\beta_{22}$		
Intercept Lv. 2, $\gamma_{60}$	4.71***	(3.08, 7.22)	Intercept Lv. 2, $\gamma_{220}$	0.72	(0.42, 1.21)
For LIVING ALONE slope, $\beta_7$			For OWNER – HOUSE OVER \$100,000 slope, $\beta_{23}$		
Intercept Lv. 2, $\gamma_{70}$	1.49	(0.78, 2.88)	Intercept Lv. 2, $\gamma_{230}$	1.21	(0.60, 2.45)
For LIVING WITH OTHERS AS HEAD OF HOUSEHOLD slope, $\beta_8$					
Intercept Lv. 2, $\gamma_{80}$	0.75	(0.48, 1.19)			

Note: CES-D= Center for Epidemiologic Studies of Depression Scale. No missing cases as variables were imputed.

<sup>†</sup>\*  $p \leq .10$ ; \*  $p \leq .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$ .

Figure 1 – Financial Strain by Census Tract in Los Angeles County, CA (Top) and Bexar County, TX (Bottom)



Source: Authors' own elaboration with data from the U.S. Census and the H-EPESE.

## References

- Angel, R.J., M. Frisco, J.L. Angel, & D. Chiriboga. (2003). Financial Strain and Health among Elderly Mexican-origin Individuals. *Journal of Health and Social Behavior*, 44, 536-551.
- Aranda, M.P., L.A. Ray, S. Al-Snih, K.J. Ottenbacher, & K.S. Markides. (2011). The Protective Effect of the Neighborhood Composition on Increasing Frailty among Older Mexican Americans: A Barrio Advantage? . *Journal of Aging and Health*, *Forthcoming*.
- Arias, E., K.E. Eschbach, W.S. Schauman, E.L. Backlund, & P.D. Sorlie. (2010). The Hispanic Mortality Advantage and Ethnic Misclassifications on U.S. Death Certificates. *American Journal of Public Health*, 100, S171-S177.
- Eschbach, K., G.V. Ostir, K.V. Patel, K.S. Markides, & J.S. Goodwin. (2004). Neighborhood Context and Mortality among Older Mexican Americans: Is there a Barrio Advantage? *American Journal of Public Health*, 94(10), 1807-1812.
- Markides, K.S., & J. Coreil. (1986). The Health of Hispanics in the Southwestern United States - An Epidemiologic Paradox. *Public Health Reports*, 3(253-265).