Immigrant Children and Overweight: Could Maternal Employment be a Contributing Factor?

Elizabeth H. Baker

Kelly Stamper Balistreri

Department of Sociology &
Center for Family and Demographic Research
Bowling Green State University
Bowling Green, OH 43403
419.372.2294
ebaker@bgsu.edu

Note: This paper is prepared solely for the annual meeting of the Population Association of America, March 29-31, 2007.

Research suggests that immigrant children are more susceptible to overweight with increasing time spent in the United States, with Hispanic children being far more likely to experience weight problems than their white non-Hispanic counterparts (Popkin and Udry 1998; Ogden et al 1997; Kahn, Sobal, and Martorell 1997). This issue is especially significant because Hispanic immigrants are making up an ever-increasing share of the population (U. S. Census 2001). Also, obesity and overweight are associated with increased disease and disability and research has shown that, often times, overweight children grow up to be overweight and obese adults (Guo et al 1994). Since susceptibility to overweight increases with time spent in the United States many researchers have examined this relationship using acculturation theory (Ariza et al 2004; Gordon-Larsen et al 2003). However, this relationship has not had consistent empirical results when using direct measures of acculturation, such as English language acquisition and proficiency (Kahn, Sobel, and Martorell 1997; Arica et al 2004). Particularly in young children researchers have found that much of the difference between native born and foreign born can be explained by variations in physical activity and diet (Gordon-Larsen et al 2003; Ariza et al 2004). Research by Balistreri and Van Hook (2006) suggests that as young children of immigrants, excluding those from high income countries, move-up in socio-economic status, overweight increases and peaks in middle SES and then falls again as they approach high SES, creating a curvilinear relationship with SES and overweight. However, native-born non-Hispanic whites and immigrants from high-income countries have a negative linear relationship with SES and overweight.

One possible explanation for the curvilinear pattern is that it is associated with maternal employment among immigrants. When mothers work outside the home they

could be more dependent on fast food and high-calorie prepared foods and children may choose high-calorie low nutrition foods when left unsupervised. The effect of maternal employment could increase SES while also potentially increasing the propensity for overweight (Anderson, Butcher, Levine 2003). Anderson, Butcher, and Levine (2003) found that there is a significant positive relationship between maternal employment and overweight in children. When mother's work intensely (35 or more hours a week) their children are at an increased likelihood of being overweight, compared to children whose mothers do not work intensely (less than 35 hours per week) or do not work at all.

Among immigrants, maternal employment may be most prevalent among middle SES families, low SES families may be poor because of the lack of two incomes (especially among immigrants) and immigrant mothers may feel less need to work and choose to stay home with their children or can afford high quality child-care in high SES families. Indeed, research concerning Hispanic immigrant women's employment has found that they are the least likely of any immigrant or native-born sub-group of women to be in the paid labor force (Schoeni 1998) and most likely to stay at home to take care of domestic and child-care tasks (Greenless and Saenz 1999; Stier and Tienda 1992). This has been explained by the more patriarchal traditional values found in many of the sending countries for Hispanic immigrants. As Hispanic immigrant women become more acculturated to American values they may be more likely to shed the more traditional values of their sending country and seek employment in the paid labor force (Boyd and Grieco 2003; Hondagneu-Sotelo 1992). Also, having very young children in the household may hinder women's employment, so as their children move from kindergarten to fifth grade mothers may be more likely to enter the labor force.

This project uses the Early Child longitudinal Study-Kindergarten cohort (ECLS-K) to test the hypothesis that the curvilinear relationship between obesity and SES for Hispanic immigrant children may be explained by maternal employment. ECLS-K is a nationally representative longitudinal dataset of children from kindergarten to fifth grade, conducted by the National Center for Education Statistics. Information for the children is collected from parents, teachers, and school administrators. This project will use the fifth grade sample. In this sample most children are around age 10 and presumably may be viewed as old enough to be left at home.

We use nested logistic regression models to examine the relationship between SES, maternal employment, nativity status of parents, and overweight for Hispanic children. This project will only use children from two-parent homes (or homes that contain two adults acting as parents), since it is presumed that if the child comes from a single mother home the mother will be more likely to work and may not have the same opportunities to stay at home or afford high quality daycare as compared to a two-parent family. The dependent variable in this analysis is a binary measure that indicates whether the child is overweight (1) or not (0). Overweight is defined as having a body mass index at or exceeding the 85^{th} percentile. SES is a created variable in the ECLS and reflects the parent's education, household income, and occupational prestige. We will also use the quadratic function of SES given its curvilinear relationship demonstrated by Balistreri and Van Hook (2006). Maternal employment will be measured in three categories, does not work, works less than 35 hours a week, and works 35 or more hours a week. Maternal employment history will be measured as whether the mother has had continuous employment, intermittent employment, recent employment, and no employment, since

the child was in kindergarten. A child will be considered the child of an immigrant if either of their parents indicated that they were born outside the United States. Parental immigrants status has three categories to control for time spent in the United States; recent (parents arrived in the United States between 6-15 years[1] of the survey), settled (which captures all other immigrants), and native (both parents were born in the United States). Also, measures of parental monitoring will be used to test if the relationship between overweight and maternal employment is mediated by parental monitoring. These variables are the number of days a week a family eats either breakfast or dinner together and TV viewing (average amount of time child spends watching TV on a week day, measured in minutes) We will also control for gender, father's employment and number of siblings.

The first model will contain the measures for SES and SES squared to verify the curvilinear relationship between SES and overweight. The second model contains maternal employment to examine whether this has a significant relationship with overweight. The third model adds maternal employment history. If maternal employment explains the association between SES and overweight for Hispanic children, than the high levels of overweight among middle SES children should diminish in models 2 and 3. The fourth model adds interaction terms to examine the potential moderating effects of maternal employment, SES, and nativity status of parents on overweight. The first interaction term (SES*parental immigrant status) examines whether the association between SES and overweight differs at varying levels of SES and if this relationship is different for Hispanic children of immigrants compared to children of native-born

[1] Since ECLS is a longitudinal dataset starting with children from kindergarten the fifth grade sample does not have any children whose parents immigrated prior to 6 years from the interview date

parents. The second interaction (maternal employment*SES) term examines whether the association between maternal employment and overweight increases as SES increases. The last interaction term (maternal employment*SES* parental immigrant status) measures whether maternal employment alters the effect of SES and if this relationship differs by immigrant status of the parents.

Table 1 shows the weighted characteristics of the independent variables broken down by parental immigration status. As consistent with the literature we find that Hispanic mothers are far less likely to work compared to white mothers, regardless of immigrant status. However, among the settled and native groups, Hispanic mothers are slightly more likely to work intensely compared to white mothers, who are far more likely to work part-time. The SES measures show that children of recent immigrants are far more likely to have a lower SES than either settled or natives, with 64 percent of the children of recent immigrants concentrated among the two lowest quintiles. Among the children of settled immigrants SES is higher than that of children of recent immigrants, and this especially true for the highest quintile. Children of natives are far more likely to have a higher SES than either recent or settled children of immigrants, with slightly over half of the children in the two highest quintiles. Lastly, average minutes spent watching TV on a weekday increases across generational groups from children of recent immigrants, to children of settled immigrants to children of natives.

Table 2 presents the percentage of overweight children by maternal employment, race/ethnicity, SES separated by parental immigrant status. The results suggests that children of recent immigrants are more likely to be overweight than either children of settled immigrants or native born and children of settled immigrants are more likely to be

overweight compared to children of natives. Children of settled immigrants and children of natives who have mothers who work, but not intensely, have the lowest likelihood of being overweight compared to children who have mothers who work intensely or do not work. The extra income from the mother's employment combined with the mother having more time than those who work intensely could potentially explain this relationship. When this is further broken down by race/ethnicity we see that this relationship is especially pronounced for Hispanic children of natives. Among Hispanic children of settled immigrants, we find that the likelihood of being overweight increases as mother's employment increases. However, the opposite is true for Hispanic children of recent immigrants, where the relationship is negative. Among white children of settled immigrants and natives we find that the likelihood of being overweight increases as the mother's employment increases. For SES, we find that the likelihood of being overweight decreases as SES increases. However, those in the third quintile have the highest likelihood of being overweight compared to all other quintiles, with this relationship being especially pronounced in children of recent immigrants.

This paper proposes to untangle the relationship between nativity status of parents, SES and overweight for Hispanic children by examining maternal employment. Maternal employment may increase SES while also increasing the propensity for children to be overweight. This project contributes to the literature that examines child overweight and immigrant status of parents by also examining the relationship that maternal employment may contribute.

REFERENCES

Anderson, Patricia, Kristin Butcher, Phillip Levine (2003). "Maternal employment and overweight," *Journal of Health Economics*, 22 (3), 477-504.

Ariza, Adolfo J., Edwin H. Chen, Helen J. Binns, and Katherine Kaufer Christoffel (2004). "Risk Factors for Overweight in Five- to Six-Year Old Hispanic-American Children: A Pilot Study," *Journal of Urban Health*, 81 (1), 150-161.

Balistreri, Kelly and Jennifer Van Hook (2006). Obesity Among Young Children of Immigrants. Presented at the annual meeting of the Population Association of America in Los Angeles, California, March 30.

Boyd, Monica and Elizabeth Grieco (2003). "Women and Migration: Incorporating Gender into International Migration Theory." Washington D. C. Migration Policy Institute. http://www.migrationinformation.org/Feature/display.cfm?id=106. Accessed September 11, 2006.

Gordon-Larson, P., Kathleen M. Harris, Diane S. Ward, and Barry M. Popkin (2003). "Acculturation and overweight-related behavior among Hispanic immigrants to the U. S.: the National Longitudinal Study of Adolescent Health," Social Science and Medicine, 57, 2023-2034.

Greenless, Clyde S., and Rogelio Saenz (1999). "Determinants of Employment of Recently Arrived Mexican Immigrant Wives," *International Migration Review*, 33 (2), 354-377.

Guo, S. S., A. F. Roche, W. C. Chumlea, Jane D. Gardner, Roger M. Siervogel (1994). "The predictive value of childhood body mass index values for overweight at age 36y," *American Journal of Clinical Nutrition*, 59 (4), 810-819.

Hondagneu-Sotelo, Pierrette (1992). "Overcoming Patriarchal Constraints: The Reconstruction of Gender Relations among Mexican Immigrant Women and Men," *Gender and Society*, 6 (3), 393-415.

Kahn, L. K., J. Sobal, and R. Martorell (1997). "Acculturaltion, Soci-economic Status and Obesity in Mexican Americans, Cuban Americans, and Puerto Rico," *International Journal of Obesity*, 21 (2), 91-96.

Ogden, CL, R.P. Troiano, R. R. Briefel, R. J. Kuczmarski, K. M. Flegal, C. L. Johnson (1997). "Prevalence of overweight among preschool children in the United States, 1971 through 1994," Pediatrics, 99. Available http://pediatrics.aappublications.org/cgi/content/full/99/4/e1. Accessed September 16, 2006.

Popkin, B. M. and J. R. Udry (1998). "Adolescent obesity increases significantly in second and third generation U. S. immigrants: The National Longitudinal Study of Adolescent Health," *Journal of Nutrition*, 128, 701-706.

Schoeni, Robert (1998). "Labor Market Outcomes of Immigrant Women in the United States: 1970 to 1990," *International Migration Review*, 32 (1), 57-77.

Stier, Haya and Marta Tienda (1992). "Family, Work, and Women: The Labor Supply of Hispanic Immigrant Wives," *International Migration Review*, 26 (4), 1291-1313.

U. S. Census Bureau (2001). Profile of the Foreign-Born Population in the United States: 2000. [On-line]. Available: http://www.census.gov/prod/2002pubs/p23-206.pdf. Retrieved March 20, 2005.

Table 1. Characteristics of the Analytic Sample by Immigrant Status (Weighted)

	Recent (n=441)	Settled (n=1,237)	Native (n=5,412)
Proportion			
White Non-Hispanic	0.177	0.309	0.922
Hispanic	0.823	0.691	0.078
Mother's Employment			
= 35 hours a week	0.356	0.475	0.480
<35 hours a week	0.172	0.213	0.252
does not work	0.472	0.310	0.267
White Non-Hispanic Mother's Employment			
= 35 hours a week	0.436	0.396	0.465
<35 hours a week	0.136	0.284	0.282
does not work	0.428	0.320	0.253
Hispanic Mother's Employment			
= 35 hours a week	0.268	0.458	0.507
<35 hours a week	0.192	0.199	0.179
does not work	0.540	0.340	0.314
SES			
1st Quintile	0.423	0.241	0.090
2nd Quintile	0.220	0.215	0.177
3rd Quintile	0.111	0.170	0.224
4th Quintile	0.132	0.162	0.248
5th Quintile	0.114	0.212	0.261
Female	0.478	0.508	0.480
Mean			
T V Viewing[a]	115.9	117.5	127.8
	(5.6)	(2.6)	(2.3)

Source: ECLS-K

[a] Standard deviations are presented in parentheses

Table 2. Proportion of Overweight by Maternal Employment, SES, Race/Ethnicity, and Immigrant Status

	Recent	Settled	Native
All	0.430	0.424	0.368
White Non-Hispanic	0.209	0.389	0.350
Hispanic	0.505	0.479	0.428
Mother's Employment			
= 35 hours a week	0.423	0.426	0.414
<35 hours a week	0.454	0.415	0.319
does not work	0.426	0.423	0.333
White Non-Hispanic Mother's Employment[a]			
= 35 hours a week	-	0.488	0.383
<35 hours a week	-	0.371	0.328
does not work	-	0.280	0.313
Hispanic Mother's Employment			
= 35 hours a week	0.525	0.447	0.520
<35 hours a week	0.504	0.486	0.296
does not work	0.494	0.511	0.337
SES			
1st Quintile	0.464	0.471	0.413
2nd Quintile	0.402	0.466	0.431
3rd Quintile	0.509	0.496	0.440
4th Quintile	0.357	0.357	0.316
5th Quintile	0.362	0.320	0.299

Source: ECLS-K

[a] Some cell sizes to small to report