Exposure to Migration, Parental Human Capital, and Children's Health in Mexico

Elizabeth Baker

Jennifer Van Hook

Claire E. Altman

Population Research Institute

Pennsylvania State University

Abstract

We examine the role of having family members as United States migrants on overweight among children in Mexico and its interactive relationship with socioeconomic status. Economic development and globalization (i.e., international exchange of goods, populations, and ideas) are associated with increases in the consumption of unhealthy foods and obesity, labeled the nutrition transition. The socioeconomic gradient in obesity has important implications during this transition, going from positive to negative. We find that having international family migrants has an interactive relationship with socioeconomic status, such that at low levels of socioeconomic status it is a risk factor, but at high levels it is protective.

Introduction

Overweight and obesity has increased rapidly in the last half of the century among adults as well as children. Overweight has also increasingly become a problem in many developing countries, which only a short while ago were attempting to combat under nutrition (Popkin 2004; Salazar-Martinez 2006; Fernald et al 2004). The increase in overweight has led to a rapid increase in the comborbidities of overweight. For example, type 2 diabetes is now the most common cause of death among adults in Mexico (Rivera et al 2002). Given the impact overweight has on a population, it is critical to understand the macro-level social processes that led to the recent increases in body weight.

It is widely recognized that economic development and globalization (i.e., international exchange of goods, populations, and ideas) are associated with increases in obesity in less developed and developing countries. This process is referred to as the "nutrition transition." Although prior research has examined the roles of urbanization, national income, television, the tourist industry, and the consumption of sugar and other sweeteners on the nutrition transition (Drewnowski and Popkin, 1997; Leatherman and Goodman, 2005; Monteiro, Moura, Conde, & Popkin, 2004; Sobal & Stunkard 1989; Wang 2001; Sobal & Stunkard, 1989; Leiberman 2003; Melgar-Quinonez & Kaiser, 2004), no research has examined the role of international migration on obesity in source communities. International migration streams connect source communities with the economy and culture of destination communities. As such, these global connections may be expected to speed up the nutrition transition in source communities.

To test this idea, we focus on the influence of international immigration on children's weight in Mexico. Mexico sends more immigrants to the United States than any other country, and most emigrants from Mexico go to the United States. Mexican migration not only alters the

receiving society, but the sending society as well. More than one in six (17%) Mexican children have a father who has migrated or is currently migrating (Nobles 2006; Nobles 2007). Large percentages of Mexican emigrants maintain contact with their families and communities of origin in Mexico by sending remittances and by returning frequently to their communities in Mexico . Through remittances or return migration, migration may alter the context that children grow up and may have important influences on their health.

We also focus on the influence of international immigration on the association of socioeconomic status (i.e., the SES-gradient) on children's weight in Mexico. The SES gradient is an important indicator of the nutrition transition. At early stages of the nutrition transition, obesity is expected to be rare and concentrated among the upper reaches of society, but as the transition proceeds, overweight is expect to increase in prevalence and become concentrated among the poor (Popkin 2001; . Recent research suggests that SES is no longer positively associated with obesity in Mexico and that overweight is now found among many poor and less educated adult populations, particularly women (Rivera et al 2004; Fernald et al 2004), although less is known about the SES gradient among Mexican children. We hypothesize and test the idea that international migration may be associated with the SES gradient among Mexican children.

Nutrition Transition and International Migration

Nutrition transition theory and theories of international migration flows provide a basis for predicting that the factors leading to emigration from less developed countries are similar to those leading to obesity. Described by Popkin and his colleagues (Popkin et al., 2002, 2004; Popkin & Gordon-Larsen, 2004) and supported by other research (Drewnowski and Popkin, 1997; Leatherman and Goodman, 2005; Monteiro, Moura, Conde, & Popkin, 2004; Sobal &

Stunkard, 1989; Wang 2001; Leiberman 2003; Melgar-Quinonez & Kaiser 2004), the nutrition transition is a world-wide historical process occurring over the past two decades involving shifts in food consumption and physical activity patterns. The major idea is that economic development and globalization (i.e., international exchange of goods, populations, and ideas) lead to increases in obesity. In less developed countries, obesity tends to be relatively rare. But as economic development proceeds (accompanied by rising incomes, urbanization, and increasing availability of inexpensive, high-caloric foods), obesity increases.

Just as Nutrition Transition Theory emphasizes the roles of economic development and global exchange in the increase in obesity in less developed countries, migration theories emphasize these factors as contributing to the initiation and maintenance of international migration streams. For example, Sassen (1990) uses World Systems Theory to argue that international migration streams derive in large part from the infusion of foreign business investment and the development of international markets in less developed countries. These changes are theorized to bring about a cascade of social and economic shifts including: increases in cash-crop agriculture, wage labor in manufacturing, and unemployment; reductions in prices for consumer goods; increased information about more developed countries through employers, advertising, and media; and increased demand for low-cost service labor in urban areas in more developed countries. Foreign investment and economic development thus creates the "perfect storm" of conditions that increase the demand for and knowledge about international immigration, and, as noted above, they are also associated with increases in obesity. This idea leads to the expectation that communities that send large numbers of immigrants are also likely to contain larger proportions of people who are overweight or obese.

Another major perspective, social network theory, emphasizes that migration flows are

sustained and gain momentum through the operation of social ties. According to this theory prospective migrants are more likely to migrate and experience smoother transition in the host society if they know someone who has already migrated. Due to the often challenging experience of migration having social networks reduces the cost of migrating. Empirical research based on the Mexican Migration Project data shows that knowing someone who has US experience is a key factor affecting the decision to migrate (Palloni et al. 2001, Massey et al 1987). Thus, families and communities involved in international immigration are likely to include people who have extensive experience and connections with the US and who are already familiar with or perhaps attracted to US lifestyles. In addition, immigrant-sending communities may receive additional income from US earnings of returned immigrants or remittances from current immigrants, which may lead to increases in consumption of non-traditional foods. Knowing former immigrants may therefore be associated with changes in diet and increases in obesity in sending communities.

The Nutrition Transition in Mexico

Mexico has seen rapid increases in the prevalence of overweight and obesity, increasing from 33% to 60% between 1988 and 1998 among women between 18 and 49, with especially large increases in obesity, 9 to 24% (Riveria et al 2002). Men experienced even larger increases, do mostly to their lower base rate. While overweight in Mexico has increased, the SES gradient in overweight still appears to be positive, especially among children. The odds of overweight are higher among children with highly educated mothers and those who live in wealthier households compared to less advantaged children (Hernandez et al 2003). However, recent research suggests that the positive gradient is weakening or perhaps even becoming negative (Rivera et al 2004; Smith and Goldman 2007). Research presented by Popkin (2001) and Popkin and

Gordon-Larsen (2004) demonstrate that obesity is quickly becoming an issue for the poor in many developing nations and that this transition is happening far faster than it did for developed nations. Similarly, research in Mexico suggests that overweight decreases with higher education, especially among women and urban residents, and that the relationship between wealth and overweight among men is negative (Riveria et al 2004; Smith and Goldman 2007 Matrorell et al 1998). However, the negative education gradient among women (the income gradient for women is still slightly positive does not hold up after confounding characteristics are controlled (Matrorell et al 1998). Nevertheless, this evidence suggests that Mexico is mid-way through the nutrition transition but is not as far along as developed countries.

Migration and Overweight

Some evidence suggests that the increases in obesity in Mexico may be partly associated with international migration. Within Mexico, child obesity is more prevalent in urban areas and near the US-Mexico border, areas that are more likely to have experienced economic growth, development and foreign investment, and at least with respect to the border areas, are more likely to be involved in international migration. But in general, the association between emigration from Mexico and obesity in sending communities remains unknown.

If international migration is associated with obesity in sending communities, then we might expect the levels and patterns of overweight and obesity among children in sending communities to be similar to those observed among children of recently-arrived Mexican immigrants in the US. The assumption here is that children of immigrants—whether they are living in Mexico or the US—are exposed to similar economic and family environments. Although Mexico has quickly become one of the heaviest nations, overweight in Mexico is half as prevalent as among Mexican American children (del Rio-Navarro et al 2004). On the face of

things, therefore, this suggests that children are likely to gain more weight after moving to the US than would similar aged children in Mexico. However, some evidence suggests that migrant children may be heavier even prior to immigration than Mexican children at large. While research examining adults and adolescents finds that overweight increases with duration and generation (Antecol and Berdard 2006; Pokin and Udry 1999), research examining children finds the relationship between assimilation and overweight is not as clear cut (Ariza et al 2000; Van Hook and Balistreri 2008; Van Hook, Baker, and Altman 2008). In a study of fifth graders in the United States children of the 1.0 generation Mexicans were the heaviest sub-group, heavier than both children of the 1.5 generation Mexicans and children of native born Hispanics (Van Hook et al 2008). This apparent reversal in the association between generational status and weight suggests that recent immigrant cohorts may have heavier children than earlier cohorts. In other words, the source country may be undergoing rapid transitions and the selectivity among immigrants may be changing.

Research examining the SES gradient among Americans has generally found this association to be negative, though the relationship tends to not be as strong for Mexican-Americans as it is for non-Hispanic whites (Tolbert et al 2008; Wang and Zhang 2006). A longitudinal study that examined children as they progressed from kindergarten to fifth grade found that among Hispanic children of immigrants, socioeconomic status had a curvilinear relationship with BMI, increasing at first and then decreasing with high socioeconomic values (Van Hook and Balistreri 2007). Similarly, other research has found that the income gradient on overweight for children of Hispanic immigrants (overwhelmingly Mexican) is larger and negative, but only for children whose mothers are more integrated into the American economy (Baker, Balistreri, and Van Hook 2008). If the SES gradient among children in immigrant-

sending communities is similar to those of children of Mexican immigrants, then we would expect to see a relatively flat gradient among these children but a positive gradient among other Mexican children.

Overall, the aims of this study are to examine the relationship between international migration flows and the level and association with SES of overweight among school aged children in Mexico. The magnitude of migration flows between Mexico and the US migration means that many children are connected in some way to those with international migration experience. This exposure may bring about increased income through remittances, increased exposure to American dietary habits, and increased exposure to ideas about healthy body size. Exposure to migration may result in the same sort of pattern found among Mexican-American children.

DATA

In this project we use the 2002 wave of the Mexican Family Life Survey, a longitudinal, nationally representative sample of households in Mexico. We confine the sample to children between the ages of five and eleven, so as to examine the effects of exposure to migration among a school aged sample. In the data there are 4,316 children in this age range. We limit the sample to only include children with valid height and weight measurements (4,015 children) and exclude children with outliers on BMI percentile measures (15 children). Finally, we limit the sample to only include children with valid measures on the independent variables, leaving an analytical sample of 3,843 children.

Dependent variable

The dependent variable is a dummy variable representing whether or not the child is overweight. This variable is constructed using the Center for Disease Control guidelines on how

to measure overweight in children. We use measured height and weight to construct body mass index (weight/height^2). Body mass index values at or greater than the 85th percentile are classified as overweight.

Independent Variable

Exposure to US Migration

Information is collected on extended family members of household members, including where they are living. The exposure to migration variable is a household level variable that counts the number of family members (parents, grandparents, children, siblings, parents-in-law, siblings-in-law, aunts, uncles, or cousins) that household members have living in the United States. This variable is then top coded at 10, with only 1.5% of children having more than 10 relatives in the United States. This is done because some households have an exuberant number of relatives in the United States and we did not want these outliers to over-exaggerate the influence of this variable. We leave this measure as continuous because we assume that having more relatives abroad is associated with increased exposure to migration and that the influence of exposure on children's health is greater for those who have more exposure.

Mother's Education

Mother's education is measured as the highest grade that the mother completed. Several dummy variables are then created to measure mother's schooling, no schooling, elementary school, middle school, and college. In these models college level education is the reference group.

Wealth Index

The wealth index measures whether the household contains certain appliances (washing machine, stove, telephone), has electricity, has a telephone, the type of plumbing, and the

material of the floor. The wealth index is centered.

Controls

Control measures include a dummy variable measuring whether the child lives in a rural area (population less than 2,500), gender, region of the country (center, west-central, northwest, northeast, and south), age in months, and household size. Both continuous measures (age and household size) are centered.

DATA ANALYSIS

To examine the relationship of parental human capital, children's exposure to US migration and the influences on overweight, we use nested logistic regression models, with clustered standard errors at the household level to correct for household level measures. The first model contains socioeconomic status, exposure to US migration, and mother's education. The second model adds the control variables in order to examine whether significant relationships observed in Model 1 hold after controls are introduced. The third model includes interaction terms between mother's education and wealth index with exposure to US migration to examine whether the influence of exposure to migration differs by socioeconomic status.

RESULTS

Table 1 presents the descriptive results by overweight status and for the whole sample. Examining the measures of socioeconomic status, wealth index and mother's education, demonstrates that overweight children tend to be more advantaged. The wealth index for overweight children is .48 while among non-overweight children it is below average with -.128. Also, overweight is more prevalent among children whose mothers have at least attended high school (18% compared to 10%). There is no real difference between the two groups on exposure to migration, though overweight children appear to have slightly fewer household members who

have relatives in the United States compared to non-overweight children. Also, overweight children are less likely to live in rural areas and tend to live in smaller households than non-overweight children.

Table 2 presents the nested logistic regression models for overweight. The first model shows that mother's education and wealth index are significantly and positively related to the odds of overweight among this sample of Mexican school aged children. Children whose mother obtained no schooling or only attended elementary school have about half the odds of overweight compared to children whose mothers attended college. The influence of exposure to US migration however, is nearly significant (p=.06) and negative. This is contradictory to expected relationship; however, the interactive models may show a different relationship. Model 2 adds the control measures and demonstrates that the influence of wealth index and mother's education remain significant and positive even after controls are added in the model, though the coefficients are reduced in magnitude. Of the controls, household size and age in months are significantly related to the odds of overweight.

Model 3 adds the interactions between wealth index and mother's education with exposure to migration. The interaction between wealth index and exposure to migration is non-significant and is subsequently dropped from the model. The interaction between mother's education and exposure to migration is significant for some levels of education. Figure 1 displays predicted probabilities of overweight for each maternal education category for children with no exposure to migration and those with one family member in the United States. Among children who are not exposed to migration, the odds of overweight increase monotonically with mother's education, such that those with college educated mothers have the highest probability of overweight. Children whose mothers received no schooling, elementary schooling, or middle

school have significantly lower odds of overweight compared to children whose mothers attended college.

However, the relationship between mother's education and probability of overweight is very different for children who have been exposed to migration. We find a pattern very similar to that found for school aged Mexican-American children residing in the United States. For this group the relationship between mother's education appears curvilinear where increases in mother's education are associated with increases in the probability of overweight until mother's education reaches middle school. At this point the probability of overweight decreases with further maternal education. Also, among those with low maternal education the probability of overweight is much higher for those who have been exposed to migration ($p < 0.05$ for those with no schooling and elementary schooling groups and $p<.1$ for those with middle school), while among those with the highest level of maternal education exposure to migration is protective against overweight.

DISCUSSION & CONCLUSIONS

It is commonly believed that Mexico is currently in the middle of the nutritional transition, where problems of under-nutrition are replaced with over-nutrition and higher rates of overweight are still found among the more advantaged relative to the less advantaged. In Mexico, higher odds of overweight are found among children whose mothers have higher education and among children with a higher wealth index. However, the United States is close to the end of the nutritional transition where overweight is more prevalent among the disadvantaged. This research finds that the socioeconomic gradient in overweight among Mexican children is still positive, in general, despite the changing relationship that it might have

with adults (Rivera et al 2004; Smith and Goldman 2007; Popkin and Gordon-Larsen 2004).

The percentage difference in overweight between Mexican children in Mexico and Mexican-Americans is staggering, with about twice as many overweight in the United States compared to Mexico (del Rio-Navarro et al 2004), with rates especially high among children of recent immigrants (Van Hook et al 2008). This suggests that the acculturation experience may begin even before migration occurs. Exposure to migration among Mexican children may increase exposure to American dietary habits, such as preferences for animal protein and processed foods (Popkin 2001), and may also come with more resources through remittances. This may result in increased overweight among this group. Despite this we do not find a positive main effect of exposure to US migration. The relationship between exposure to US migration and overweight appears to operate primarily through the interactive relationship with mother's education. The relationship between overweight and maternal education for those exposed to migration appears to mirror the pattern found in the United States (Wang and Zhang 2006; Van Hook and Balistreri 2007).

However, the differences between those exposed to migration and those not at each level of maternal education are striking. Among those with low maternal education, children exposed to migration have significantly higher odds of overweight compared to those with no US migration exposure, but at the high levels of maternal education exposure acts as protective effect against overweight. Also, mother's education was the only socioeconomic variable to have a significant interactive relationship with exposure to migration, indicating something important about mother's education. Increased exposure to US migration may result in more American preferences and also more income (through remittances), mothers with less education may have more difficulty in helping their children navigate this environment. Research examining

Hispanic immigrant mothers in the US (overwhelmingly Mexican), found that less acculturated and less educated mothers were more likely to miss-classify their overweight children and more likely to select heavier images as an ideal body weight for their children (Olvera, Suminski, and Power 2005). Highly educated mother exposed to this information may adopt this ideal faster than less educated mothers.

Prior research stresses the need to examine the impact of migration on both the receiving and source communities. Mexican migration has had a large impact on not only the US, but also in Mexico. Recent research suggests that large amounts of familial migration may influence Mexican children's health in the form of stunting (Nobles 2007). This research also finds that patterns of overweight among Mexican children are influenced by exposure to US migration.

References

Antecol, H. and K. Bedard (2006). Unhealthy Assimilation: Do Immigrants Converge to American Health Status Levels? *Demography*, 43 (2), 337-360.

del Rio-Navarro, Blanca E., Oscar Velazquez-Monroy, Claudia P. Sanchez-Castillo, et al (2004). The high prevalence of overweight and obesity in Mexican children. *Obesity Research*, 12 (2), 215-223.

Drewnowski, A., & Popkin, B. M. (1997). The nutrition transition: New trends in the global diet. *Nutrition Reviews*, 55(2), 31–43.

Fernald, Lia C., Juan Pablo Gutierrez, Lynnette M. Neufeld, Gustavo Olaiz, Stefano M. Bertozzi, Michele Mietus-Snyder and Paul J. Gertler (2004). High Prevalence of Obesity Among the Poor in Mexico. JAMA, 291 (21), 2544-2545.

Hernandez, B., L. Cuevas-Nasu, T. Shamah-Levy, E. Monterrubio, C. Ramizez-Silva, R. Garcia-Feregrino, J. Rivera, and J. Supulveda-Amor. 2003. "Factors associated with overweight and obesity in Mexican school-age children: Results from the National Nutrition Survey 1999." *Salud pública de México* 45:S551-7.

Leatherman, Thomas L. and Alan Goodman (2004). Coca-colonization of diets in the Yucatan. *Social Science and Medicine*, 61 (4), 833-846.

Lieberman, L. S. (2003). Dietary, evolutionary, and modernizing influences on the prevalence of type 2 diabetes. *Annual Review of Nutrition*, 23, 345–377.

Martorell, Reynaldo, Laura Kettel Khan, Morgen L. Hughes, and Laurence M. Grummer-Strawn (1998). Obesity in Latin American Women and Children. *Journal of Nutrition,* 128, 1464-1473.

Massey, Douglas, Jorge Durand, and Nolan J. Malone. 2002. *Beyond Smoke and Mirrors:*

Mexican Immigration in an Era of Economic Integration. New York: Russell Sage Foundation.

Melgar-Quinonez, H. R., & Kaiser, L. L. (2004). Relationship of child-feeding practices to overweight in low-income Mexican-American preschool-aged children. *Journal of the American Dietetic Association*, 104(7), 1110–1119.

Monteiro, C., E. Moura, W. Conde, and B. Popkin. 2004. "Socioeconomic status and obesity in adult populations in developing countries: A review." *Bulletin of the World Health Organization* 82:940-946.

Nobles, Jenna (2007). Parental Migration and Child Health in Mexico. Presented at the annual meetings of the Population Association of America. March 29-31, New York City, NY.

Olvera, Norma, Richard Suminski, and Thomas G. Power (2005). "Intergenerational Perceptions of Body Image in Hispanics: Role of BMI, Gender, and Acculturation," *Obes Res*, 13, 1970-1979.

Popkin, Barry M. (2001). The nutrition transition and obesity in the developing world. *Journal of Nutrition*, 131, 871S-873S.

Popkin, B. M., and P. Gordon-Larsen. 2004. "The nutrition transition: Worldwide obesity dynamics and their determinants." *International Journal of Obesity* 28:S2-S9.

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

Rivera, Juan A., Simón Barquera, Fabricio Campirano, Ismael Campos, Margarita Safdie, and Víctor Tovar (2002). Epidemiological and nutritional transition in Mexico: rapid increase of non-communicable chronic diseases and obesity. *Public Health Nutrition*, 5 (1A) 113-

122.

Rivera, Juan A., Simon Barquera, Teresa Gonzalez-Cossio, Gustavo Olaiz, and Jaime Sepulveda (2004). Nutrition Transition in Mexico and in Other Latin American Countries. *Nutrition Reviews*, 62 (7), S149-S157.

Sassen, Saskia (1990). *The mobility of labor and capital: A study in international investment and labor.* Cambridge University Press: Cambridge, MA.

Smith, Kimberly V. and Noreen Goldman (2007). Socioeconomic differences in health among older adults in Mexico. *Social Science and Medicine*, 65, 1372-1385.

Sobal, J., and A. J. Stunkard. 1989. " Socioeconomic-status and obesity: A review of the literature." *Psychological Bulletin* 105:260-275.

Van Hook, Jennifer and Kelly Stamper Balistreri (2007). Immigrant generation, socioeconomic status, and economic development of countries of origin: A longitudinal study of body mass index among children. *Social Science & Medicine*, 65, 976-989.

Wang, Y. (2001). Cross-national comparison of childhood obesity: The epidemic and the relationship between obesity and socioeconomic status. *International Journal of Epidemiology*, 30, 1129–1136.

Wang, Youfa and Qi Zhang (2006). Are American children and adolescents of low socioeconomic status at increased risk of obesity? Changes in the association between overweight and family income between 1971 and 2002. American Journal of Clinical Nutrition, 84, 707-716.

Table 1. Descriptive Statistics of the Sample

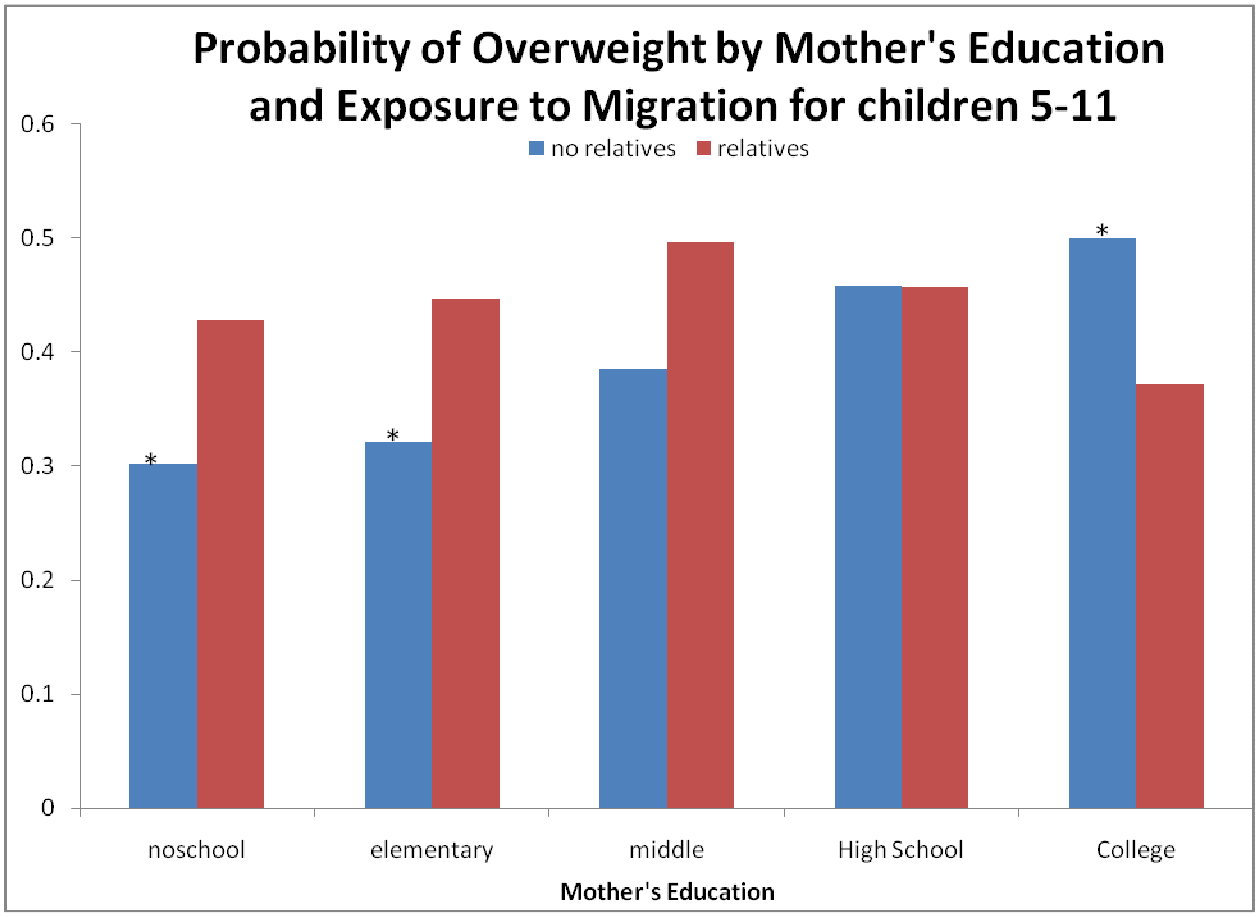
	Overweight (n=747)		Not Overweight (n=3,096)		Total Sample (n=3,843)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Wealth Index	0.478	1.36	-0.128	1.69	-0.010	1.65
Mother's Education						
No Schooling	0.063	0.24	0.103	0.30	0.095	0.29
Elementary	0.414	0.49	0.518	0.50	0.498	0.50
Middle School	0.347	0.48	0.274	0.45	0.288	0.45
High School	0.103	0.30	0.067	0.25	0.074	0.26
(College)	0.074	0.26	0.038	0.19	0.045	0.21
Exposure to Migration	1.336	1.95	1.490	2.22	1.460	2.17
Household Size	-0.385	1.72	0.096	2.00	0.002	1.96
Age in Months	1.830	22.04	-0.117	22.05	0.261	22.06
Rural	0.375	0.48	0.487	0.50	0.465	0.50
Urban						
Boy	0.498	0.50	0.484	0.50	0.486	0.50
Girl						
Center	0.179	0.38	0.213	0.41	0.207	0.40
West Central	0.194	0.40	0.203	0.40	0.201	0.40
Northwest	0.213	0.41	0.184	0.39	0.190	0.39
Northeast	0.221	0.42	0.189	0.39	0.195	0.40
South	0.193	0.39	0.211	0.41	0.207	0.41

TABLE 2. LOGISTIC REGRESSION ON OVERWEIGHT AMONG 5-11 YEAR OLDS

	Model 1		Model 2		Model 3	
	Odds Ratio	Std Error	Odds Ratio	Std Error	Odds Ratio	Std Error
Wealth Index	1.234 ***	0.03898	1.200 ***	0.04084	1.199 ***	0.04089
Mother's Education						
No Schooling	0.530 **	0.128	0.596 *	0.14648	0.433 **	0.13249
Elementary	0.594 ***	0.10806	0.636 *	0.11829	0.475 ***	0.11638
Middle School	0.762	0.13643	0.795	0.14299	0.627 *	0.1517
High School	0.856	0.1841	0.868	0.1876	0.845	0.23836
(College)						
Exposure to Migration	0.960 †	0.02032	0.974	0.0215	0.769 *	0.09844
X No Schooling					1.315 *	0.1799
X Elementary					1.305 *	0.17112
X Middle School					1.254 †	0.16844
X High School					0.998	0.16399
Household Size			0.923 ***	0.02319	0.921 ***	0.02336
Age in Months			1.005 *	0.00194	1.004 *	0.00194
Rural			0.917	0.09092	0.918	0.09123
(Urban)						
Boy			1.033	0.08653	1.034	0.08692
(Girl)						
Center			0.862	0.12175	0.864	0.12286
West Central			0.994	0.14028	0.983	0.14017
Northwest			0.999	0.14158	1.016	0.14522
Northeast			1.002	0.14155	0.999	0.14138
(South)						

† $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1.


Probability of Overweight by Mother's Education and Exposure to Migration for children 5-11
no relatives
relatives
0.6
0.5
0.4
0.3
0.2
0.1
0
*
*
*
noschool
elementary
middle
High School
College
Mother's Education