2015

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Recommended Citation
Originally published as chapter 10 in "Transitions: The Development of Children of Immigrants," eds. Suarez-Orozco, C., Abo-Zena, M., and Marks, A. (2015). 205-217. New York: New York University Press.

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Paradoxes in Physical Health

ROBERT CROSNOE, AIDA RAMOS-WADA, AND CLAUDE BONAZZO

Rosa was a mother who participated in a study I conducted in Texas on the connection between early health and learning among the children of Mexican immigrants. She had a four-year-old son enrolled in a public pre-K program and was intensely focused on providing the best care for him and offering him all of the opportunities she could so that he could have a better life. Rosa was also poor, had little education, and was uncomfortable speaking English. She had no access to health insurance through her sporadic job as a housecleaner, and because of the immigration-related enrollment restrictions the state had put in place in the wake of welfare reform, she was not eligible for federal health programs such as Medicaid. Consequently, her child had limited access to quality health care other than emergency rooms and received little, if any, preventative well-child care.[1]

In many ways, Rosa's family is typical of the Mexican immigrant population and the broader immigrant population in the United States. Poverty rates are high among immigrant families, but they are underrepresented in the caseloads of health and human services for low-income families.[2] This combination is a recipe for children's poor health. However, Rosa's son, while suffering from more health illnesses (such as colds and ear infections) than many of the White, African American, and Latino/a children at his pre-K did, was certainly not in poor health overall. More broadly, the health outcomes of immigrant children are often much better than expected given their circumstances, a situation that gives credence to the notion of an immigrant paradox in health.[3] This paradox idea was originally based on data showing that Latin American immigrants in the United States have a life expectancy that is much closer to (and perhaps even higher than) that of U.S.-born Whites despite their

having socioeconomic profiles much closer to (and even lower than) those of U.S.-born African Americans.[4] More and more, the paradox is becoming a frame for studying immigrants' health much earlier in their life course.

This chapter reviews the evidence from social science and medical research that sheds light on this potential immigrant paradox in health—when, where, and for whom it holds or does not apply. In doing so, two important points need to be kept in mind. First, the existence of the paradox does not necessarily mean that immigrants are doing better than everyone else. Rather, it means that they are doing better than their social and economic positions suggest that they should be. Second, the paradox may apply in general but not hold in specific domains of health for certain subgroups or at certain life stages. The health literature is so voluminous that it cannot be reviewed in its entirety. Instead, this chapter is more selective in its coverage. In line with the developmental and ecological spirit of this book, a particular health topic has been chosen to highlight what is occurring in major periods of the early life course and to demonstrate how physical, social, and cultural forces and contexts intersect to strengthen or weaken the immigrant paradox around this topic. Specifically, the chapter focuses on infant mortality, childhood illness and disease, and adolescent health behavior, giving additional attention to a topic that cuts across life stages: obesity.

Infant Mortality

One powerful tool for gauging the general well-being of a population is its infant mortality rate. At the beginning of life, the immigrant paradox is quite striking, just as it is at the end of life. The *infant mortality rate* refers to the number of babies born in the United States (per 1,000 births) who die before their first birthday. Most deaths occur within the first hours or days after birth. The overall rate for the United States is about six deaths per 1,000 births. The rate for Whites, the most socioeconomically advantaged and powerful racial/ethnic group in the country, is about five deaths per 1,000 births. The rate for African Americans, historically the most disadvantaged and disenfranchised group, is much higher, at around 13 deaths per 1,000 births. Thus, racial/ethnic disparities in infant mortality are quite striking. Just as

striking, however, are immigration-related disparities within and across racial/ethnic groups.[5]

Within all major racial/ethnic groups in the United States, the children of foreign-born parents have lower infant mortality rates than do the children of native-born parents. Within both the Latino/a and White populations, this difference equals about one death per 1,000 births, a very large disparity. Within the African American population, it is much larger, nearly four deaths. Among Asian Americans it is smallest, around half a death. Moreover, the surprisingly low rate of infant mortality among Latino/as in the United States—one of the most often cited examples of the immigrant paradox—is almost solely accounted for by the large proportion of immigrants within the Latino/a population. In other words, the overall low rate of Latino/a infant mortality can be attributed to the strong infant health among first-generation Latino/a immigrant families. Again, the paradox for immigrants in general and Latin American immigrants in particular reflects a disconnect between their socioeconomic statuses (a *macro context* in ecological terms) and infant mortality rates. Socioeconomic disadvantage is the best predictor of infant mortality, and immigrants tend to be more socioeconomically disadvantaged than their U.S.-born counterparts. Therefore, infant mortality should be higher among immigrants than among natives, and it should be higher in racial/ethnic groups with greater proportions of immigrants. However, neither of these expectations happens to be true.[6]

One major factor in this paradox is *immigrant selectivity*, a social phenomenon that reflects macro- and micro-level immigration contextual processes.[7] Within any given country, those who leave for the United States differ from those who do not; hence, the former are more selective. They may themselves be healthier or have other characteristics that promote health in their children. For example, some families may come from community settings with established connections to migratory routes and social capital that may facilitate their overall well-being during migration. Consequently, any health advantages of immigrants in the United States could merely reflect differences in what brought them to this country and what kept others in their home countries from emigrating. Immigrant selectivity does indeed account for a large portion of the immigrant paradox, but it does not completely explain it. Similarly, immigrants may return to their home countries in times of sickness and

distress, so some deaths may not show up in U.S. records. Although an important component of the immigrant paradox is overall mortality, this explanation does little to illuminate the immigrant paradox in infant mortality. Instead, contextual factors are at work, many having to do with family life and the broader cultures of immigrant communities. When immigrant mothers are compared with their native-born counterparts (within and across racial/ethnic groups), they tend to have better health behavior while pregnant (e.g., avoiding smoking and drinking and maintaining better nutrition) and can draw on stronger networks of social support. Thus, a combination of migration trends at the population level and ecological resources at the individual level likely explains why the health of immigrant babies in the United States defies the odds.

Illness and Disease in Childhood

Does the immigrant paradox in infancy extend into childhood? Birth outcomes largely depend on the health behavior of mothers and on children's congenital issues, but childhood introduces new problems in the form of infectious illnesses—acute problems such as ear infections, gastrointestinal sickness, and colds; serious problems such as flu and pneumonia; and chronic issues such as asthma. Although such illnesses can strike anywhere across the life span, they are particularly significant in childhood because children are increasingly exposed to new pathogens in their everyday ecologies while their immune systems are developing. Moreover, childhood health outcomes are strongly related to health-care utilization, and the majority of immigrant families have limited access to such care.[8]

Unfortunately, less is known about immigration-related disparities in childhood illnesses than about health statuses in infancy (or later, health behaviors in adolescence). In part, the relative dearth of evidence reflects data limitations. Many large-scale health studies do not have young children in their samples, or if they do, the studies do not allow immigrants to be readily identified. At the same time, many large-scale studies that include young immigrant children in their samples provide only limited information on health. Some work, however, has been conducted in this area, and it provides mixed support for the existence of the immigrant health paradox during this developmental stage.

Evidence from the Early Childhood Longitudinal Study–Kindergarten Cohort (ECLS-K), an education-focused national study of elementary school students, indicates that children with immigrant parents suffer more physical health problems (including acute illnesses such as ear infections) during their transition into formal schooling than children from nonimmigrant families of the same race or ethnicity do. These disparities are primarily explained by the socioeconomic disadvantages of immigrant families, but they persist despite socioeconomic controls for children from Latin American immigrant families. They stand in stark contrast to disparities in *mental* health, which significantly favor the children of immigrants. However, these patterns should not be interpreted too simplistically. The physical health patterns could reflect the underrepresentation of Latino/a immigrant children in child-care centers and preschools, which would delay peer exposure to pathogens. The mental health patterns could reflect underreporting due to racial/ethnic and immigration-related differences in stigma and stress. Still, these results are telling relative to the clear trend toward immigrant health advantages in the infant-mortality literature discussed previously.[9]

Findings from community studies often echo this national pattern. In a sample from Southern California, the children of Mexican immigrants were found to be at higher risk for serious infectious disease than were the children of U.S.-born parents. They were more likely to experience ear infections and pneumonia, especially if their parents were newly arrived and spoke little English. Notably, the children in this sample all had had healthy birth outcomes. In addition to this study's results, other research has found that tuberculosis infection is substantially higher among the children of immigrants than it is in the general population, even though tuberculosis infection is declining overall in the United States. These trends are often attributed to poverty and its many environmental correlates and could reflect a legacy from immigrant families' origin countries.[10]

As an exception to this general pattern, several studies have reported that asthma prevalence is significantly lower among immigrant children than it is among their peers from nonimmigrant families. This advantage weakens across generations and as length of residence increases and is especially apparent in the Mexican immigrant population. It is unclear why asthma disparities operate differently, so these findings call

for more exploration of changes in children's everyday ecologies over time and of potential increases in utilization of health care (and, therefore, increases in diagnoses of conditions such as asthma) the longer that immigrant parents reside in the United States.[11]

Such evidence offers some insight into the greater tendency for immigrant parents (as opposed to U.S. natives) to report that their young children are in poor health. In ECLS-K, immigrant parents from Asia and Latin America rated their children's physical health significantly lower than their U.S.-born counterparts and White parents did, even when key socioeconomic and environmental factors were taken into account.[12] For this chapter, we analyzed the same parent assessments in the Early Childhood Longitudinal Study–Birth Cohort (ECLS-B), a companion to the ECLS-K that focuses on younger children. The results were similar to those of the ECLS-K. Mexican immigrant parents gave the lowest ratings of their children's health, a disparity that increased over time as the children approached the start of elementary school. Such disparities in parental health ratings are significant given how strongly these global health ratings predict future health problems and hospital visits.[13]

Infectious health problems in childhood, therefore, may be an exception to the general rule of an immigrant paradox discussed previously for infancy and discussed next for adolescence. Significantly, contextual or ecological influences on health are often discussed in the literature on childhood health among immigrant families but are infrequently examined directly. Possibly, contextual forces related to immigrant selectivity or migratory social capital advantages do not extend into the childhood period with the same protective impacts observed in infant mortality. Future research should consider how concrete environmental attributes of the settings of children's daily lives—especially policy-amenable aspects of child care, schools, communities, and health care—change as children develop and as both they and their parents spend more time in the United States and potentially become more assimilated.

Risky Health Behavior in Adolescence

The increased tendency for teenagers to take risks with their health has been extensively documented. Teenagers are more likely than children or adults to engage in many forms of risky sex, problematic substance

use, or other kinds of dangerous behavior such as reckless driving. This pattern is rooted in several factors, including the increased peer orientation that is a byproduct of the developmental task of individuating themselves from their parents as well as the divergent developmental timetables in areas of the brain that control sensation seeking and self-regulation.[14] Still, this increased risk-taking is widespread but not universal. Immigration is one factor producing significant variation.

In short, ample evidence suggests that the immigrant paradox applies to adolescent health-risk behavior. Much of this evidence comes from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative study of U.S. teenagers in the 1990s, but other national and community studies have also contributed findings.[15] Foreign-born youth tend to have lower levels of substance use (e.g., cigarettes, alcohol, marijuana, and other illegal drugs) than U.S.-born youth do and are less likely to have sex and to have unprotected sex.[16] These patterns extend fairly consistently across most racial/ethnic groups (e.g., Asian Americans and Latino/as) as well as subgroups within them (e.g., Mexicans and Cubans among Latino/as).[17]

The reduced risk-taking among youth from immigrant families, however, tends to weaken over time. This reduction is less apparent among U.S.-born youth with immigrant parents than it is among foreign-born youth in immigrant families. Even among youth who are foreign-born themselves, low rates of risky behaviors fade as their length of residency in the United States increases. The risky behavior of immigrant youth who have been in the United States longer than 10 years looks similar to that of U.S.-born youth.[18] In general, substance use, sexual activity, and other risky behaviors are associated with higher levels of acculturation to U.S. society, as facilitated by factors such as English-language use.[19] Similarly, risky behavior rates are lower among adolescents from immigrant families when they live in neighborhoods high in ethnic concentration—but only if those neighborhoods are not also socioeconomically disadvantaged.[20] Therefore, risky behavior may be a product of immigrant youth's becoming more integrated into the U.S.-based peer culture. At the same time, immigrant youth do show an uptick in risky behavior when they experience discrimination, a finding suggesting that in some cases youth's risk-taking may reflect problems with that process of social integration.[21]

Several microsystemic contextual mechanisms have been identified by research on these immigration-related disparities in health-risk behavior. Particularly important are the strong family orientations and responsibilities of youth from immigrant families and the greater value that they place on school. Such youth also tend to be less peer oriented than the general adolescent population is, especially in terms of their orientation to peers from nonimmigrant backgrounds, a factor that is important since peer influences are among the strongest factors contributing to risky behavior. These mechanisms support the conclusion that immigrant youth become more prone to risky behavior as they are absorbed into the social worlds of their American peers and, consequently, are drawn away from their families and other conventional institutions—in line with theoretical models of adolescent development that emphasize tensions between adult and peer worlds.[22]

Obesity across the Early Life Course

Rising obesity rates in the United States cut across stages of the life course. Therefore, obesity is a good topic to examine when considering the health of immigrant children *and* adolescents. Some evidence suggests that the immigrant paradox does apply to obesity but with important caveats.

Generally, foreign-born youth are less likely to be obese than U.S.-born youth are.[23] Indeed, estimates from the National Survey of Children's Health indicate that the former have 26 percent lower odds than the latter of having body mass indices in the obese range, controlling for socioeconomic circumstances and other demographic factors.[24] These disparities seem to reflect immigration-related differences in diet since immigrant families tend to eat lower-fat foods and be less likely than nonimmigrant families to eat fast food. These disparities do not, however, seem to reflect differences in another factor significantly relevant to obesity: physical activity. Children from immigrant families are actually less likely to engage in physical activity than are their peers from nonimmigrant families, a finding indicating that immigrant youth have less understanding about the benefits of such activity and more time constraints. Also, given these youth's lower average socioeconomic statuses, the findings reflect the general impact of poverty on physical activity.[25]

This immigrant advantage in obesity is primarily concentrated in the first generation (i.e., youth who are foreign-born). It is weaker or even nonexistent in later generations (e.g., in the U.S.-born children of immigrants). Even within the first generation, this advantage weakens as more time is spent in the United States and as markers of acculturation increase.[26] Immigration-related disparities in obesity also vary by race or ethnicity—being weaker among Latino/as and stronger among Whites and African Americans.[27] Another source of variation is age related, with the immigrant paradox being stronger in early childhood and adolescence than in childhood, especially for boys.[28] Cross-national comparisons are also revealing. Unlike the situation in the United States, immigration-related differences in obesity in many European countries favor natives (i.e., they tend to be thinner) rather than immigrants.[29] Economic development is also a major factor in national variation in the immigration-related disparities in obesity. In many developing countries that send migrants to the United States, socioeconomic status is positively associated with body mass index, while the association is inverse in the United States. Consequently, low-income immigrant youth from less developed countries have a lower BMI than higher-income youth in those countries do and, within the United States, than the children of immigrants from developed counties do.[30] On balance, then, assimilation into U.S. society seems to promote obesity, a finding that calls for paying more attention to the ways in which youth from immigrant families are exposed over time to ecological contexts (such as neighborhoods with limited options for healthy eating or safe recreation) and processes (such as eating outside the home) that put their physical health at risk.

Thus, immigration-related trends in obesity tend to defy the socioeconomic odds in the United States since not only obesity but also the socioeconomic factors that protect against obesity are less prevalent in immigrant groups than in the general population. These links among immigration, socioeconomic status, and obesity are more complicated, however, in transnational perspective. Furthermore, the immigrant advantage varies more substantially than simple conclusions about the immigrant paradox suggest and requires a more careful unpacking of the evolving ecologies of development among immigrant youth.

Conclusion

Overall, the health of immigrant children and adolescents in the United States appears to be good, especially relative to the health of youth who are not immigrants and do not have immigrant parents. This general picture also subsumes a good deal of variation that is likely to interest researchers studying children and youth within their everyday ecological contexts.

Variations in the immigrant paradox in health tend to reflect various dimensions of time: developmental time and timing of immigration. On the one hand, the duration of time since immigration (on the part of children in terms of length of residence, on the part of families in terms of immigrant generation) is consistently related to a decline in observed immigrant advantages in multiple markers of health in the early life course. This fadeout most likely reflects the absorption of immigrant children and youth—who tend to assimilate more quickly than their parents do—into pockets of U.S. culture that do not generally promote health and, due to this absorption, their movement away from strong family and community networks that promote health. On the other hand, evidence for the immigrant paradox is also most consistent for aspects of health behavior (as opposed to health status) among adolescents. This pattern suggests that immigration is a qualifier to a common developmental theme in the United States—adolescents engaging in risky behavior as they individuate from parents, take more control of their lives, and become more peer oriented. Immigration may slow down or reduce this normative process, contributing to a healthier behavioral profile among immigrant youth during this stage of their life span than that of their nonimmigrant peers.

The immigrant paradox and its variations discussed here lead to some conclusions about policies and interventions targeting population health among children and adolescents. Such efforts might be more successful if they promoted healthy practices (such as providing nutrition education) among young children and school-age children from immigrant families—especially those of Mexican and other Latin American origins—who have lived longer in the United States, focused on improving the ecological conditions in which these children live their lives

(such as providing community environmental programs), expanded access to health care for young children from immigrant families in general and for undocumented and mixed-status families in particular (e.g., through local and state programs that supplement the more immigration-restrictive federal health-care services),[31] and, more generally, attempted to improve the basic socioeconomic circumstances of such immigrant families by supporting broader policies such as comprehensive immigration-reform legislation as a means of reducing the poverty-related factors that most undermine the health of immigrant children and youth.

NOTES

1. Crosnoe, R., Bonazzo, C., & Wu, N. (2015). *Healthy learners: Poverty, immigration, and opportunity in early childhood education.* New York: Teachers College Press.

2. Fortuny, K., & Chaudry, A. (2011). *Children of immigrants: Growing national and state diversity.* Washington, DC: Urban Institute; Hernandez, D. J., Macartney, S., Blanchard, V. L., & Denton, N. A. (2010). Mexican-origin children in the United States: Language, family circumstances, and public policy. In N. Landale, S. McHale, & A. Booth (Eds.), *Growing up Hispanic: Health and development of children of immigrants* (pp. 169–185). Washington, DC: Urban Institute.

3. Perreira, K., & Ornelas, I. J. (2011). The physical and psychological well-being of immigrant children. *Future of Children, 21,* 195–218.

4. Markides, K. S., & Eschbach, K. (2005). Aging, migration and mortality: Current status of research on the Hispanic paradox. *Journals of Gerontology, Series B: Social Sciences and Psychological Sciences, 60B,* 68–75.

5. Arias, E. (2010). United States life tables by Hispanic origin. *National Vital Health Statistics, 2*(152), 1–41.

6. Hummer, R. A., Powers, D., Gossman, G., Pullum, S., & Frisbie, W. P. (2007). Paradox found (again): Infant mortality among the Mexican origin population of the United States. *Demography, 44,* 441–457.

7. Ibid.

8. Fuller, B., Bridges, M., Bein, E., Jang, H., Jung, S., Rabe-Hesketh, S., Halfon, N., & Kuo, A. (2009). The health and cognitive growth of Latino toddlers: At risk or immigrant paradox? *Maternal and Child Health, 13,* 755–768; Guendelman, S., English, E., & Chavez, C. (1995). Infants of Mexican immigrants: Health status of an emerging population. *Medical Care, 33,* 41–52; Mendoza, F. S., & Dixon, L. B. (1999). The health and nutritional status of immigrant Hispanic children: Analyses of the Hispanic Health and Nutrition Examination Survey. In D. J. Hernandez (Ed.), *Children of immigrants: Health, adjustment, and public assistance* (pp. 187–243). Washington, DC: National Academy Press; Yu, S. M., Zhihuan, J. H., & Singh, G. K. (2004). Health status and

health services utilization among U.S. Chinese, Asian Indian, Filipino, and Other Asian/Pacific Islander children. *Pediatrics, 113,* 101–107.

9. Crosnoe, R. (2006). Health and the education of children from race/ethnic minority and immigrant families. *Journal of Health and Social Behavior, 47,* 77–93.

10. Guendelman et al. (1995); Nelson, L. J., Schneider, E., Wells, C. D., & Moore, M. (2004). Epidemiology of childhood tuberculosis in the United States, 1993–2001: The need for continued vigilance. *Pediatrics, 114,* 333–341.

11. Brim, S. N., Rudd, R. A., Funk, R. H., & Callahan, D. B. (2008). Asthma prevalence among U.S. children in underrepresented minority populations: American Indian / Alaska Native, Chinese, Filipino, and Asian Indian. *Pediatrics, 122,* 217–222; Eldeirawi, K., McConnel, R., Freels, S., & Persky, V. W. (2005). Associations of place of birth with asthma and wheezing in Mexican American children. *Journal of Allergy and Clinical Immunology, 116,* 42–48; Subramanian, S. V., Jun, H. J., Kawachi, I., & Wright, R. J. (2009). Contribution of race/ethnicity and country of origin to variations in lifetime reported asthma: Evidence for a nativity advantage. *American Journal of Public Health, 99,* 690–697.

12. Crosnoe. (2006).

13. Case, A., Lubotsky, D., & Paxson, C. (2002). Economic status and health in childhood: The origins of the gradient. *American Economic Review, 92,* 1308–1334.

14. Steinberg, L. D. (2008). A social neuroscience perspective on adolescent risk taking. *Developmental Review, 28,* 78–106.

15. Bui, H. N. (2013). Racial and ethnic differences in the immigrant paradox in substance use. *Journal of Immigrant Minority Health, 15*(5), 866–881; Peña, J. B., Wyman, P. A., Brown, C. H., Matthieu, M. M., Olivares, T. E., Hartel, D., & Zayas, L. H. (2008). Immigration generation status and its association with suicide attempts, substance use, and depressive symptoms among Latino adolescents in the USA. *Prevention Science, 9,* 299–231; Perreira & Ornelas. (2011).

16. Gfroerer, J. C., & Tan, L. L. (2003). Substance use among foreign-born youths in the United States: Does the length of residence matter? *American Journal of Public Health, 93,* 1892–1895; Guarini, T. E., Marks, A. K., Patton, F., & García Coll, C. (2011). The immigrant paradox in sexual risk behavior among Latino adolescents: Impact of immigrant generation and gender. *Applied Development Science, 15,* 201–209; Perreira & Ornelas. (2011).

17. Eitle, T. M., Gonzalez Wahl, A. M., & Aranda, E. (2009). Immigrant generation, selective acculturation, and alcohol use among Latina/o adolescents. *Social Science Research, 38,* 732–742; Harachi, T., Catalano, R. F., Kim, S., & Choi, Y. (2001). Etiology and prevention of substance use among Asian American youth. *Prevention Science, 2,* 57–65; Le, T., Goebert, D., & Wallen, J. (2009). Acculturation factors and substance use among Asian American youth. *Journal of Primary Prevention, 30,* 453–473.

18. Gfroerer & Tan. (2003); Perreira & Ornelas. (2011).

19. Bui. (2013); Cavanagh, S. E. (2007). Peers, drinking, and the assimilation of Mexican American youth. *Sociological Perspective, 50,* 393–416.

20. Eitle et al. (2009); Frank, R., Cerdá, M., & Rendón, M. (2007). Barrios and burbs: Residential context and health-risk behaviors among Angeleno adolescents. *Journal of Health and Social Behavior, 48,* 283–300.

21. Kulis, S., Marsiglia, F. F., & Nieri, T. (2009). Perceived ethnic discrimination versus acculturation stress: Influences on substance use among Latino youth in the Southwest. *Journal of Health and Social Behavior, 50*, 443–459.

22. Bui. (2013); Cavanagh. (2007); Prado, G., Huang, S., Schwartz, S. J., Maldonado-Molina, M. M., Bandiera, F. C., de la Rosa, M., & Pantin, H. (2009). What accounts for differences in substance use among U.S.-born and immigrant Hispanic adolescents? Results from a longitudinal prospective cohort study. *Journal of Adolescent Health, 45*, 118–125.

23. Perreira & Ornelas, 2011; Popkin, B. M., & Udry, J. R. (1998). Adolescent obesity increases significantly for second- and third-generation U.S. immigrants: The National Longitudinal Study of Adolescent Health. *Journal of Nutrition, 128*, 701–706.

24. Singh, G. K., Kogan, M. D., & Yu, S. M. (2009). Disparities in obesity and overweight: Prevalence among U.S. immigrant adolescents by generational status. *Journal of Community Health, 34*, 271–281.

25. Gordon-Larsen, P., Harris, K. M., Ward, D. S., & Popkin, B. M. (2003). Acculturation and overweight-related behaviors among Hispanic immigrants to the U.S.: The National Longitudinal Study of Adolescent Health. *Social Science and Medicine, 57*, 2023–2034; Perreira & Ornelas. (2011); Singh et al. (2009); Unger, G. B., Reynolds, K., Shakib, S., Spruijt-Metz, D., Sun, P., & Johnson, C. A. (2004). Acculturation, physical activity, and fast-food consumption among Asian-American and Hispanic adolescents. *Journal of Community Health, 29*, 467–481.

26. Singh et al. (2009); Van Hook, J., & Balistreri, K. (2007). Big boys and little girls: Gender, acculturation, and weight among young children of immigrants. *Journal of Health and Social Behavior, 51*, 200–214.

27. Harris, K. M., Perreira, K. M., & Lee, D. (2009). Obesity in the transition to adulthood: Predictions across race/ethnicity, immigrant generation, and sex. *Archives of Pediatric and Adolescent Medicine, 163*, 1022–1028.

28. Perreira & Ornelas. (2011); Van Hook & Balistreri. (2007).

29. Kirchengast, S., Schober, E., Waldhor, T., & Sefranek, R. (2004). Regional and social differences in body mass index, and the prevalence of overweight and obesity among 18-year-old men in Austria between the years 1985 and 2000. *Collegium Anthropologicum, 28*, 541–552.

30. Van Hook, J., & Balistreri, K. (2007). Immigration generation, socioeconomic status, and economic development of countries of origin: A longitudinal study of body mass index among children. *Social Science and Medicine, 65*, 976–989.

31. Crosnoe, R., Pedroza, J. M., Purtell, K., Fortuny, K., Perreira, K., Ulvestad, K., Weiland, C., Yoshikawa, H., & Chaudry, A. U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. (2012). *Promising practices for increasing immigrants' access to health and human services* (ASPE Issue Brief). Retrieved from http://aspe.hhs.gov/hsp/11/immigrantaccess/practices/rb.shtml.