IS ASSIMILATION THEORY DEAD? THE EFFECT OF ASSIMILATION ON ADOLESCENT WELL-BEING

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Abstract

The relationship between assimilation and the well-being of immigrant children has been the focus of debate in the recent sociological literature. Much of this work has questioned whether classical theories of immigrant adaptation, which assumed assimilation to be an integral part of the process of upward mobility for immigrants, are still applicable to today's immigrant children. This study reevaluates the applicability of classical assimilation theory with a comprehensive empirical assessment of the relationship between assimilation and the well-being of Hispanic and Asian immigrant adolescents. Using Add Health data, we examine the effect of different aspects of assimilation on educational achievement, psychological well-being, and at-risk behaviors. We find that the effect of assimilation varies greatly depending on the ethnic group and outcome under consideration, but that it is generally related to both greater academic achievement and more at-risk behavior. We conclude that assimilation theory is still relevant, but suggest an interpretation that emphasizes a process of decreasing differences between groups rather than either detrimental or beneficial effects of assimilation.

Keywords

Immigrants; adolescents; youths; assimilation; ethnicity

Recent sociological literature has devoted considerable attention to the well-being of immigrant children (e.g., Hernadez 1999; Perlmann and Waldinger 1997; Portes and Rumbaut 1996, 2001; Zhou and Bankston 1998). Much of this scholarship is concerned with how the assimilation experiences of "new" immigrant children of Asian and Latin American descent differ from those of earlier waves of European immigrants. Such work often questions whether classical theories of immigrant adaptation, which assumed assimilation to be an integral part of the process of upward mobility for immigrants, are still applicable (Alba and Nee 1997, 2003; Rumbaut 1997) – prompting Nathan Glazer (1993) to ask, "Is Assimilation Dead?" Specifically, some scholars have suggested that today's immigrant children may be better off avoiding or at least limiting full-scale assimilation (Gans 1992; Portes and Zhou 1993).

While these scholars have questioned the continuing relevance of classical assimilation theory, empirical research examining the consequences of assimilation for today's immigrants is still inadequate and unconvincing. This study provides a broad and systematic empirical assessment of the relationship between assimilation and the well-being of immigrant adolescents.

Background

Immigration to the United States was virtually halted from the mid 1920s until around 1965. Following the passage of the landmark 1965 Immigration Act, the country is once again experiencing a period of mass immigration. While pre-1920 immigrants had come primarily from Europe, since 1965immigrants have come predominantly from Latin America and Asia. The economic, social, and cultural impact of these "new" immigrants on American society has been widely debated. However, one thing is clear: The long-run implications of this wave of immigration will be primarily determined not by what happens to the immigrants themselves, but by the outcomes of their children. While only 11% of the total population is foreign-born (Malone et al. 2003), a full 20% of children under age 18 are part of immigrant families (Hernandez 1999) – either as immigrants themselves, or as the U.S.-born children of immigrants. (Regardless of birthplace, we refer to all children in immigrant families as "immigrant children.") During the next few decades, these children will grow up to comprise an increasing share of working-age adults. Hence, the welfare of this expanding group of American children has become a central focus among both policymakers and academic researchers.

Research on the well-being of immigrant children thus far has suggested reasons for both concern and hope. On the one hand, researchers have noted that immigrant children's greater likelihood of experiencing poverty and the tendency for immigrant families to be clustered in poor, inner-city neighborhoods may put immigrant children at risk for numerous deleterious outcomes (Hernandez 2003; Portes, Fernandez-Kelly, and Haller 2005; Rumbaut 2005). For example, they may be at risk for participating in gangs (Portes and Rumbaut 2001; Zhou and Bankston 1998), engaging in the drug trade or other illegal activities (Gans 1992; Martinez et al. 2004; Portes et al. 2005; Rumbaut 2005), dropping out of school (Hirschman 2001; Landale et al. 1998). On the other hand, researchers have suggested that the high motivation levels and achievement-related cultural values of many immigrant groups may spur immigrant children to greater educational accomplishments than their native counterparts. Indeed, empirical research has repeatedly shown that many immigrant children have significantly better educational outcomes than would be predicted on the basis of their family's socioeconomic status (Rumbaut 1997). While some of the variation in outcomes among immigrant children is attributable to systematic differences by national origin, there is still considerable heterogeneity within ethnic groups. Understanding why some of these children do so well while others fall behind is of obvious importance.

The question of how assimilation affects the lives of contemporary immigrant children has recently been the subject of much debate in the sociological literature. Classical assimilation theory portrayed assimilation as an integral part of the movement of immigrant groups into the American middle class (Warner and Srole 1945). Some scholars have argued that classical assimilation theory is no longer applicable for current Asian and Latin American immigrants, suggesting that their experiences are not adequately represented by theories of assimilation derived from the experiences of earlier waves of European immigrants. Gans (1992) and others have suggested that assimilation today may be associated with worsening outcomes for some immigrant children. Indeed, several studies have found negative effects of assimilation (particularly acculturation) on certain outcomes for immigrant adolescents. For example, assimilation is reported to be related to early or risky sexual behavior (Harris 1999; Landale and Hauan 1996; Upchurch et al. 2001) and higher risks of delinquency and substance abuse (Harris 1999; Nagasawa et al. 2001; Zhou and Bankston 1998). Rumbaut (1997) also cites prior research showing detrimental effects of assimilation on adolescents' educational outcomes. However, the effects of assimilation are not always found to be negative – for example, Rhee et al. (2003) found acculturation to be related to higher self-esteem for Asian American adolescents.

In sum, the existing literature suggests a variety of possible relationships between assimilation and adolescent well-being. Findings vary depending on both the outcomes examined and the specific samples and/or ethnic groups under consideration. To better understand the relationship between assimilation and adolescent well-being, we should study the effects of assimilation on a wide range of outcomes for the same sample of immigrant children. Otherwise, variability in the effect of assimilation across outcomes may be confounded by potential variability across samples. That is, it is risky to draw general conclusions about the effects of assimilation from studies that are based on different, and often small and highly localized, samples. Thus, both the consistency across and the generalizability from these studies could be questioned. To overcome this limitation, we propose to examine multiple outcomes at once using a single, nationally representative data source.[1]

In addition, the current literature has suffered from very limited operationalizations of assimilation. While the theoretical literature has conceptualized assimilation as a multi-dimensional process that encompasses acculturation, structural assimilation, spatial assimilation, and generational assimilation (discussed below), the majority of studies of the relationship of assimilation to immigrants' outcomes have examined only one or two of these aspects. Almost all existing studies rely on either non-English language use, duration of U.S. residence (for first-generation immigrants), foreign vs. U.S. birth, or some combination of these to measure assimilation (Harris 1999; Landale and Hauan 1996; Landale et al. 1998; Portes and Hao 2002; Rhee et al. 2003). While language, generation, and length of stay clearly have face validity as measures of assimilation, they tap into only certain aspects of it. This paper adopts a broader and more theoretically guided approach to measuring assimilation, resulting in a more complete picture of the relationship between assimilation and immigrants' well-being.

Hence, while previous studies have considered the effects of acculturation and/or assimilation on particular outcomes, there has been no comprehensive assessment of the effects of assimilation in the present-day context. This paper provides such an assessment by employing both a variety of measures of assimilation and a broad array of outcomes. With this comprehensive approach, we hope to answer the following questions: Is assimilation positively associated with immigrant children's well-being, as would be predicted by common interpretations of classical assimilation theory? Or, in keeping with recent critiques of assimilation theory, might assimilation have mixed or even negative consequences for today's immigrant youth?

We start by briefly reviewing assimilation theory and discussing why there is a need to reassess it. We then discuss how to operationalize assimilation. Next, we analyze data from the National Longitudinal Survey of Adolescent Health (Add Health) to evaluate the effects of assimilation on several key adolescent outcomes: Educational outcomes, including high-school graduation, secondary school grades, and college enrollment; psychological well-being, including depression and self-esteem; and risky behaviors, including delinquency, violence, and controlled substance use. Finally, we reflect upon the continuing usefulness of the concept of assimilation in light of our empirical results.

Theoretical Perspectives on Assimilation

"Stylized" Assimilation Theory

Whether explicitly or implicitly, much work following the classical assimilation tradition assumed that assimilation was a necessary part of the process of upward socioeconomic

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[1]Harris (1999) also examines a range of outcomes using the same data source we use in the present study. Her paper, however, is very limited in its conceptualization and measurement of the assimilation process.

mobility for immigrant groups (e.g., Warner and Srole 1945). Despite this assumed association, most classical formulations of assimilation theory (e.g., Gordon 1964) treated assimilation as a social process to be explained rather than as a causal factor affecting outcomes. Nonetheless, the idea that assimilation is beneficial is the aspect of the theory most emphasized by contemporary scholars. Many current immigration scholars have framed their work as a critique of classical assimilation theory, using it as something to "push" against in formulating new ideas about assimilation. In so doing, they are reacting to what may be characterized as a "stylized" version of classical assimilation theory – the simple assumption that assimilation is good. We refer to this characterization of the theory as "stylized" because the canonical literature itself does not emphasize this aspect of the theory to nearly such an extent as current scholars do. In the next section, we outline the primary arguments as to why classical assimilation theory may no longer be applicable.

Contemporary Revisions and Critiques

Contemporary scholarship generally recognizes noteworthy differences between the post-1965 wave of immigration and early twentieth-century immigration in both the composition of immigrant groups and the context of reception in the United States. In terms of group composition, some scholars emphasize that the new immigrants are primarily from Asia and Latin America and therefore nonwhite, and their minority status may hinder their full integration into the white middle class (e.g., Gans 1992; Portes and Rumbaut 1996, 2001; Portes and Zhou 1993). In addition, many scholars (e.g., Alba and Nee 2003; Bean and Stevens 2003; Zhou 1997b) have noted that contemporary immigrants come from a much wider variety of socioeconomic backgrounds than those in the previous wave, suggesting that different groups will start out on different "rungs" of the American class system. This makes any single, uniform model of immigrant incorporation into the United States inherently less appropriate than it may have been for earlier, relatively more homogeneous groups.

In terms of context, the new immigrants are entering the United States during a period when demand for semi-skilled and skilled labor has been substantially reduced by changes in the economy. Several scholars have argued that the assimilation and upward mobility of the 1890-1920 wave of immigrants were facilitated by the manufacturing-based economic expansion of that period, but that the current service-based postindustrial economy is less favorable for the incorporation of new workers (Fernandez-Kelly and Schauffler 1994; Gans 1992; Massey 1995; Portes and Zhou 1993; Suarez-Orozco and Suarez-Orozco 2001; Zhou 1997a).

Gans (1992) outlines several distinct trajectories that the new immigrants may follow, including downward as well as upward mobility among the possible outcomes. Further developing these ideas, Portes and Zhou (1993) propose the theory of "segmented assimilation." This theory asserts that the United States is a stratified and unequal society, and that therefore different "segments" of society are available for immigrants to assimilate into. They delineate three possible paths of assimilation. The first is essentially that predicted by classical assimilation theory – increasing acculturation and integration into the American middle class. The second is acculturation and assimilation into the urban underclass, leading to poverty and downward mobility. The third is the deliberate preservation of the immigrant community's culture and values, accompanied by economic integration (Portes and Zhou 1993; Zhou 1997a). Segmented assimilation theory emphasizes that there is more than one way of "becoming American," and that Americanization is not necessarily beneficial (Zhou 1997a): at least under some circumstances, immigrant children may be better off limiting or avoiding assimilation and instead remaining enmeshed within the ethnic community.

However, is classical assimilation theory, in its original form, really obsolete? According to some scholars, the answer is no. First of all, it is not clear that differences between current and

past immigrants are significant enough to render classical assimilation theory inapplicable. It has been contended that the experience of today's immigrants and their offspring is not truly all that different from that of the 1890-1920 wave of European immigrants. For example, Alba and Nee (1997, 2003) argue that the offspring of earlier European immigrant groups often did not fully assimilate until the third or fourth generation. Thus, observations of limited assimilation among today's second-generation youth should not be surprising. Waldinger and Feliciano (2004) argue that Mexican immigrants, who are often considered the group most vulnerable to "downward assimilation," transition into the American working class in a similar manner as earlier large immigrant groups. They show that their labor force outcomes appear to be converging across generations with native whites rather than with native minority groups. Alba and Nee (1997, 2003) and Perlmann and Waldinger (1997) are also skeptical of the idea that the racial distinctiveness of contemporary immigrants will be a long-term disadvantage. Because racial boundaries in the United States proved to be fluid for past "white" immigrants (such as Irish, Italians, and Jews), they propose that contemporary Asian and Latin American immigrants may not be considered racially distinct in the long term. In sum, whether or not we really need new theories of assimilation to understand the experiences of today's immigrants remains an open question.

Theoretical Motivations for Current Investigation

Critiques of assimilation theory argue that the effects of assimilation in today's context are variable rather than uniformly beneficial. While they point to diversity among immigrants and across social contexts as the reasons for this variability, another source of variability could be the outcome examined: namely, the effect of assimilation may be beneficial for one outcome but detrimental for another. Diversity in the effects of assimilation across different outcomes is to be expected, given that improvement in one outcome may come at the cost of deterioration in another. For instance, immigrants' worsening health outcomes over time in the U.S. (also known as the epidemiological paradox) may result from affluence -- that is, from the more sedentary lifestyles and greater reliance on convenience foods typical in modern high-income societies. Thus, immigrants' socioeconomic improvement may go hand-in-hand with experiencing the same affluence-related health conditions as the rest of the population. Apparent contradictions in the effects of assimilation may thus be simply the result of expanding the number of outcomes under investigation.

Are such apparent contradictions necessarily evidence against classical assimilation theory? While many scholars have treated classical assimilation theory as if it implied that all outcomes should be positively affected by assimilation, this interpretation is actually an extrapolation. Classical assimilation theory focused primarily on socioeconomic outcomes, such as occupational attainment and social class mobility, and thus was noncommittal as to predictions about the effects of assimilation on non-socioeconomic outcomes. Therefore, the above example of deteriorating health linked to greater assimilation should not necessarily be interpreted as evidence against classical assimilation theory – it may just fall outside the realm to which the theory was meant to apply.

An expansion of outcomes is necessary because we are studying the well-being of immigrant adolescents. To fully capture their well-being, we must examine outcomes across a wide range of domains. Given classical assimilation theory's concern with adults, it is understandable that its primary focus was on socioeconomic outcomes. For adolescents, socioeconomic outcomes are not necessarily the most important, nor the most interesting, outcomes to consider. With the exception of educational achievement, adolescents are too young for us to observe traditional "status attainment" outcomes, and even educational achievement cannot be completely observed until a later age. Meanwhile, other outcomes that occur during

adolescence, such as becoming involved in crime, having a teenage birth, or becoming dependent on drugs or alcohol, have a strong influence on future life chances.

Therefore, we expand the number of outcomes under consideration to cover as many domains relevant to adolescents as possible. This expansion may lead to a greater degree of variability in the effects of assimilation—with some effects being positive but others negative. Our interpretation of assimilation theory therefore explicitly allows the effect of assimilation to vary across outcomes. For convenience, we call this reinterpretation the "expanded" version.

To sum up, classical assimilation theory can be interpreted in two ways: In the "stylized" version of the theory often invoked by contemporary scholars, assimilation should be associated with better outcomes across the board. In the "expanded" version, which we find more compelling, assimilation can have variable effects depending on the outcomes examined. To understand this interpretation, we recall Alba and Nee's (1997) definition of assimilation as "the decline, and at its endpoint the disappearance, of an ethnic/racial distinction and the cultural and social differences that express it" (p. 863). It follows from this definition that a key factor in determining the effect of assimilation should be the starting position of immigrants, relative to natives, when they first enter the United States.[2] Due to the great diversity in the socioeconomic characteristics of different immigrant groups, we can expect a great deal of variation across both immigrant groups and outcomes in how well immigrants do relative to natives. For outcomes on which an immigrant group starts out doing better than natives, assimilation should imply deterioration over time. For outcomes on which immigrants start out at a disadvantage, assimilation should mean gradual improvement over time – that is, change in the direction predicted by "stylized" assimilation theory.

Data and Research Methods

Data

For our study, we analyze data from the National Longitudinal Survey of Adolescent Health (Add Health), a school-based survey of adolescents in grades 7-12 in 1994-1995. All students in sampled schools were asked to complete the school-based portion of the survey. Each student was asked to name up to 10 close friends in the same school in this portion of the survey, making it possible to completely map friendship networks within a school. A subset of students also completed a longer in-home interview. Three waves of the in-home surveys have now been conducted. In this paper, we use information from Wave 1 (conducted in 1995) and Wave 3 (conducted in 2001-2002). The survey design has been described in more detail elsewhere (see Harris 1999). In all statistical analyses of the data, we use appropriate weights to account for stratified sampling, non-proportionate non-response, and non-proportionate attrition.[3]

A few unique features of Add Health make it an ideal data source for our study. First, not only is its sample large and nationally representative, it also contains over-samples of Chinese, Cubans, and Puerto Ricans. Therefore, we have adequate sample sizes of both Asian and Hispanic first- and second-generation adolescents. Unfortunately, we do not have adequate sample sizes of other groups, such as Caribbean or African-origin adolescents, so, we limit our analysis to Asians and Hispanics. In addition to aggregate analyses for each of these two "umbrella" groups, we have sufficient sample sizes to conduct separate analyses for five different ethnic groups: Mexicans (N=732), Cubans (N=453), Puerto Ricans (N=249) [4], Chinese (N=266), and Filipinos (N=408). Second, at Wave 1, the study collected residential location of each respondent included in the in-home interview and provided to researchers the attributes of neighborhood and community contexts. Third, Add Health collected friendship

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[2]By "natives," we refer in this paper to U.S.-born persons with parents who were also born in the United States.
[3]We also appropriately correct for standard errors in regression analyses due to clustering, stratification, and using weights.

network data at the school level in Wave 1. As we describe below, our operationalizations of assimilation make use of both friendship and contextual data. Fourth, Add Health collected a wealth of information covering a variety of topics, such as academic performance, psychological well-being, and at-risk behavior. As discussed earlier, the ability to look at so many outcomes at once allows us to gauge the overall relationship between assimilation and adolescent well-being.

Measurement of Assimilation

We use a variety of measures of assimilation to test the relationship between assimilation and adolescent well-being, for two reasons: First, assimilation theory identifies many specific facets of assimilation. We wish to tap into as many of these as possible. Second, different measures of assimilation vary in the degree to which they are endogenous – that is, the degree to which they are a product of individual behavior or choice. Measures that are a function of behavior may be a product, rather than a cause, of the outcomes we wish to study. Using a variety of measures that differ in their degree of endogeneity allows us to mitigate this problem, at least to some extent. Below, we discuss our measures of assimilation in terms of the theory from which they are derived. We then discuss their relative strengths and drawbacks in terms of endogeneity.

Acculturation—At its most general level, classical assimilation theory sought to describe the social processes through which immigrants become incorporated into mainstream American society, the way in which they "become Americans." The most complete and refined theoretical account of the assimilation process is found in Milton Gordon's (1964) *Assimilation in American Life*. Gordon identified seven steps in the assimilation process, which he believed to take place in a fairly regular sequence. The first of these steps, *acculturation*, involved the immigrant group's gradual adoption of the cultural habits of the "core subsociety" – which Gordon defined as white middle-class Protestants. An important part of acculturation was the adoption of the English language, usually followed by a strong preference for English in later generations.

Add Health unfortunately does not contain many direct measures of acculturation; however, it does include the use of non-English languages, which has been one of the most common indicators of acculturation used in the assimilation literature. Because immigrant children attend American schools, lack of English proficiency is rare among all but very recently arrived immigrant children (Alba and Nee 2003; Portes and Schauffler 1996; Mouw and Xie 1999; Portes and Rumbaut 2001). Therefore, the crucial information regarding their language use is whether they retain their native language in addition to learning English. Add Health includes a question about language spoken at home. Although this question may capture the acculturation of a child's parents as well as that of the child, use of non-English language at home is evidence that an immigrant child has a closer link to the culture of origin than a child that speaks only English, including the ability to converse with grandparents and others in the ethnic community. Therefore, we consider an immigrant child to be more acculturated if he/she lives in an English-speaking household than otherwise. Our first measure of acculturation is a dichotomous variable indicating English language usage at home at Wave 1 (yes=1).

Length of stay in the United States is commonly treated as another measure of acculturation in the literature. It is thought to be a valid proxy for acculturation, since at least among children,

[4]Although the status of Puerto Rico as a commonwealth of the United States means that Puerto Ricans are not immigrants in the strict sense of the word, we treat them as such due to the immigrant-like process of linguistic and cultural adjustment they face upon migrating to the mainland U.S. (Landale and Hauan 1996). The concept of assimilation is thus still applicable to Puerto Ricans and has been treated as such in the immigration literature. We define first-generation immigrants as those born in Puerto Rico, while second-generation immigrants are those born in the mainland U.S.

exposure to the host society almost always leads to at least some absorption of its cultural patterns. Greater exposure, in the form of greater length of stay, should therefore lead to greater acculturation. Although we acknowledge that it is indirect, our second measure of acculturation is the number of years since arrival in the United States for first-generation immigrants. We also employ a dichotomous version of this variable denoting whether or not the respondent has been in the United States for more than 5 years (1=yes).

Structural Assimilation—According to Gordon's framework, acculturation laid the groundwork for the next step of the assimilation process, which he termed *structural assimilation*. Structural assimilation was defined as "large-scale entry into the cliques, clubs, and institutions of host society, on the primary group level" (Gordon 1964:71). Gordon argued that the increasing contact between groups brought about by structural assimilation would lead naturally to other forms of assimilation, particularly intermarriage. Widespread intermarriage, in turn, would gradually erase the social boundaries which had previously separated the immigrant group from the host society. In a way, then, structural assimilation was the lynchpin of the assimilation process.

We operationalize structural assimilation as the ethnic composition of the immigrant child's friendship network. We treat inter-ethnic friendship as an indicator of structural assimilation because it means that a child's "primary group," by which we mean those with whom he/she is intimate on a day-to-day basis (Cooley 1909), has expanded to include native-born Americans who do not share the child's cultural background. Several previous studies have used the composition of a child's friendship network as an indicator of assimilation, though most have been hampered by lack of good-quality data on friendship (i.e., Bankston and Zhou 1997; Fernandez-Kelly and Schauffler 1994; Portes and Rumbaut 2001; Zhou and Bankston 1994). We measure structural assimilation as the proportion of an immigrant child's friends that are native-born[5].

Generational or "Straight-Line" Assimilation—Later expansions and revisions of assimilation theory have fleshed out the assimilation process. Gans (1973), drawing on ideas originally formulated by Warner and Srole (1945), re-emphasized the role of generational change in driving the assimilation process. This variant of assimilation theory became known as *straight-line assimilation* (Alba and Nee 1997:832-833). While a certain degree of acculturation occurs over time among first-generation immigrants, straight-line theory portrayed the group-level process of assimilation as primarily a function of generational replacement. Each subsequent generation was considered to be one step further removed from the culture of origin and one step closer to becoming completely "American."

We use immigrant generation to get at the concept of straight-line assimilation. Generation has been used extensively in the literature as a measure of assimilation, though not always with reference to straight-line assimilation. It has also been treated as an indicator of acculturation similar to length of stay, due to the fact that second-generation members have necessarily been exposed to the host society longer than their first-generation peers. In our analysis, we treat generation as an acceptable indicator of either acculturation or straight-line assimilation. We treat immigrant generation as a binary variable, denoting whether or not a respondent is a second-generation (as opposed to a first-generation) immigrant (yes=1).

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[5]Studying friendship composition is challenging to due to the fact that the opportunity structure for intergroup interactions is determined by relative group sizes (identifying reference). That is, the fewer coethnics available, the lower the likelihood of having coethnic friends. In other work (identifying references), we have constructed measures of friendship that are purged of group-size influences. Per a reviewer's suggestion, for this study we adopt an absolute measure of inter-ethnic friendship. With this absolute measure, we are not concerned with *why* an immigrant child has more native friends (e.g., because the child prefers native friends versus because there are no coethnics available) but with *whether* the child has such friends (and therefore is more structurally assimilated).

Spatial Assimilation—Other scholars have emphasized the role of space in the assimilation process. The theory of *spatial assimilation* (Massey and Denton 1985) states that as immigrant groups experience upward socioeconomic mobility, they tend to move out of urban ethnic enclaves and into more economically advantaged suburban communities. For immigrants who arrived in the United States early in the 20th century, this generally meant moving to communities comprised predominantly of the white ethnic majority group. More recent refinements of spatial assimilation theory (Alba et al. 1999) have shown that suburban residence may no longer be synonymous with spatial assimilation; while in the past immigrants tended to form ethnic enclaves in central cities, today they may do so directly in suburbs. Spatial proximity to the white ethnic majority is thus not guaranteed by suburban residence, nor is it necessary to move to white neighborhoods in order to access the residential amenities of affluent suburbs.

Therefore, to operationalize spatial assimilation it is preferable to avoid measures based merely on central city versus suburban residence – although these have been common in the literature. Instead, we examine the composition of the immigrant family's neighborhood. We wish to know both the extent to which an immigrant child lives in a highly concentrated ethnic neighborhood and the extent to which he or she is exposed to native-born Americans. For the sake of consistency we code all our assimilation measures so that a higher value indicates more assimilation. Therefore, rather than the percentage of coethnics in the neighborhood, we measure the percentage of neighbors who are *not* coethnics. This yields two neighborhood-level measures of spatial assimilation: (1) percentage of non-coethnics, and (2) percentage native-born. Both were computed at the census-tract level from the 1990 U.S. Census. In addition to these percentages as continuous measures, we also use categorical versions of them to home in on respondents who are *not* living in highly concentrated immigrant/coethnic neighborhoods (1= not living in such neighborhood). For the percentage of immigrants, we set the cut-point of concentration at 30%. For the percentage of non-coethnics, we set the cut-points at approximately the group-specific means for Hispanics and Asians, 60% for Hispanics and 75% for Asians.

Strengths and Drawbacks of Measures—Altogether, we have proposed six measures of assimilation: language use, length of stay, friendship composition, generation, percentage of native-born persons in the respondent's neighborhood, and percentage of non-coethnics in the respondent's neighborhood. (See Appendix A for the descriptive statistics of these variables by immigrants' race.) These six measures tap into different dimensions of assimilation. They also differ greatly in the degree to which they are exogenous to an immigrant child's behavior.

Length of stay and generation, as demographic characteristics, are the most exogenous measures. They have the advantage of not being contaminated by the behavior of the individual or family, nor is it possible for any of our outcome variables to have caused them. In this sense, they are truly exogenous. However, this virtue is accompanied by a significant drawback: Demographic measures of assimilation impose an implausible homogeneity assumption that individuals of the same demographic characteristics (i.e., generation and/or length of stay) have exactly the same level of assimilation. To be sure, more time spent in the United States gives an individual more exposure to American society, and thus more potential for assimilation. However, using these factors as measures ignores differences in how this potential translates into actual assimilation. In fact, there is a great deal of spatial heterogeneity in exposure to the American mainstream given the same generation and length of stay: Some immigrants have lived exclusively in immigrant communities and are thus less assimilated, while others have lived outside immigrant enclaves and are thus more assimilated. Immigrant families also differ in the degree to which they take deliberate steps to preserve their culture of origin and transmit it to their children. Generation and length of stay are thus rather crude indicators of assimilation. Nonetheless, because these demographic measures are truly exogenous, results using these

measures will not be subject to the criticism that assimilation is an effect, rather than a cause, of an outcome variable.

Like demographic measures, spatial measures can also be thought of as an exposure-based approach. In contrast to the demographic approach, however, the spatial approach does not assume that all individuals of the same demographic characteristics have the same level of assimilation. Instead, the spatial approach differentiates the intensity with which immigrant children are exposed to American culture. For example, immigrant children living in neighborhoods with a heavy concentration of other immigrants have less exposure to American culture than immigrant children living in neighborhoods populated mostly by native-born Americans. The spatial approach capitalizes on contextual variation in exposure to American culture and thus potential for assimilation.

We emphasize that the spatial variation in exposure is across families, as all members of a family share the same local environment. Where to live is a decision made at the family level. We recognize that the decision of where to live is endogenous in the sense that it reflects the level of assimilation and other attributes at the family level. For example, an immigrant family that is not very assimilated is likely to live in a neighborhood that has other coethnic immigrant families. Note that the decision of where to live is made not by immigrant children but by their parents. It is possible that a family's residential decision is affected by children's previous or anticipated outcomes. However, for most families, residential decisions precede and determine children's outcomes rather than the other way around. In this sense, the spatial approach yields measures that are relatively exogenous (but less exogenous than demographic measures). As a tradeoff, spatial measures also provide far more detailed information about assimilation at the family level than purely demographic measures.

Our two remaining measures, language use and friendship composition, are the least exogenous of the six. These indicators rely on individual behaviors as measures of assimilation. Because they are measured at the same level as outcomes – the individual – there is a risk that these behavioral measures suffer from endogeneity, which can take two forms. The first is unobserved heterogeneity: Both a behavioral manifestation of assimilation and an outcome can be due to other unobserved factors not captured by measures available in the data. The second is classic-form endogeneity: The choice to assimilate (or not to assimilate) is affected by the anticipated impact of assimilation. In other words, individuals may adjust their assimilation behaviors in order to maximize their expected social or economic well-being (Alba and Nee 2003; Esser 2005).

Despite greater vulnerability to problems of endogeneity, language use and friendship composition are valuable measures because they allow finer distinctions between different levels of assimilation. Demographic measures of assimilation contrast groups with different amounts of temporal exposure to American culture, whereas spatial measures compare families with different amounts of intensity of exposure to American culture. However, the assumption that there is no individual-level variation given exposure is unrealistic. That is, given the same generation and the same length of stay in the United States, persons of the same ethnicity living in the same neighborhood can and do have different levels of assimilation. Such differences are reflected in their behaviors. Our behavioral measures allow us to distinguish these individual-level differences in assimilation.

Thus, our six measures differ in the degree to which they are subject to endogeneity. Statistical methods for dealing with endogeneity are available (such as instrumental variable estimation, fixed-effects models, or Heckman-type endogenous sample-selection models), but they all demand extra information – in the form of additional data and/or unverifiable assumptions. In this research, our primary approach in addressing the problem of endogeneity is to use multiple

measures of assimilation. One major advantage of using multiple measures is that they permit a triangulation of results. If multiple measures of assimilation all affect a particular outcome in a consistent way, we can be more confident that our conclusions are not driven by endogeneity problems.

Outcomes

Educational outcomes—We examine three educational outcomes. The first is graduation from high school. By Wave 3 of Add Health, even the youngest respondents should have graduated from high school. (In fact, they should have been two years past graduation following the normal progression schedule.) We constructed a variable indicating high school graduation from the Wave 3 survey (yes=1). Our second educational outcome is college enrollment. We constructed a variable indicating whether or not a respondent had ever attended a postsecondary institution within 2 years of the date they either graduated from or should have graduated from high school (yes=1). We use "ever attendance" because it is a meaningful measure for all Add Health respondents, including those who are still college-age. Third, we constructed a measure of academic performance based on self-reported grades in Wave 1. Respondents reported their grades "at the most recent grading period" in four subjects: English/Language Arts, Mathematics, History/Social Studies, and Science. One shortcoming of grades as an outcome measure is that they are not comparable across schools; an A student in a school with students who all perform poorly may not have learned as much as a B student in a better school. Therefore, we normalized grades across schools by using Wave 1 scores on the Peabody Picture Vocabulary Test to parse out the between-school portion of variation in student achievement. [6] This yielded a normalized grade, comparable across schools, with a standard deviation of one. We averaged the standardized grade across the four subjects to obtain an overall measure of academic achievement.[7]

Psychological well-being—The emphasis on psychological well-being in the literature on immigrant children (e.g., Bankston and Zhou 2002; Harker 2001; Kao 1999) is justified because immigrant children are specifically characterized by what Thomas and Znaniecki (1974) termed "marginality," the experience of living in two worlds and not fully belonging to either. Marginality refers to a painful split, with accompanying feelings of insecurity, alienation, and ambivalence toward both the ethnic subculture and the dominant society. In this research, we examine how the psychological well-being of immigrant adolescents is influenced by the process of assimilation.

We measured depression, the most common mental health problem among adolescents, with a 19-item Center for Epidemiological Studies Depression (CES-D) scale in Wave 1. We borrowed the same set of self-esteem indicators used by Bankston and Zhou (2002), six items that were implemented in Wave 1. For both depression and self-esteem, we combined the items, after reverse-coding certain items, to form composite scales. A higher value means greater depression or higher self-esteem. Variable definitions and sample statistics for all the outcome variables are given by race in the third panel of Appendix B.

At-risk behaviors—In keeping with the epidemiological literature on adolescent health, we define at-risk behaviors as behaviors that put an adolescent at greater risk of experiencing a negative outcome (either immediately or later in life), although many adolescents may engage in such behaviors without experiencing harm. Segmented assimilation theory calls for a focus on at-risk behaviors. If immigrant children assimilate into "oppositional youth culture," there

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[6]Please see the authors' website for the exact methodology.
[7]A small number of students did not have grades in all four subjects. For them, the average was computed from grades in all available subjects.

should be observable behavioral manifestations. Thus, we are interested in how assimilation affects the likelihood that an immigrant child will be engaged in risky behaviors. For this paper, we use four measures of at-risk behaviors: (1) delinquency; (2) violence; (3) use of tobacco, alcohol, and marijuana; and (4) age at first sexual intercourse. Delinquency and violence are of concern due to both their socially undesirable nature in the short-term and their long-term potential to harm adolescent perpetrators who become involved with the criminal justice system.

We consider heavy use of controlled substances a risky behavior because it puts adolescents at greater risk for developing health problems and addictions, and we deem early sexual intercourse risky behavior because adolescents who have sex at young ages are at greater risk of pregnancy and sexually transmitted diseases than those who delay the onset of sexual intercourse (Kaestle et al. 2005). Our delinquency and violence measures are based on a series of questions that measure the frequency of different delinquent or violent behaviors. We used 10 survey items measuring delinquent behaviors to construct a composite measure of delinquency and 9 items measuring violent behavior to construct a composite measure of violence. We created the composite scales by summing the self-reported occurrences in the past 12 months on all relevant items. For example, the delinquency scale potentially ranges from 0 (for a respondent who reported no delinquent behaviors) to 10 (for a respondent who engaged in every behavior at least once).

We derived our measure of controlled substance use from the self-reported use of tobacco, alcohol, and marijuana. As expected, use of controlled substances varies highly with age and by substance. Therefore, we age-standardized the three survey items on smoking, drinking, and marijuana by finding the age-specific distribution of use of each substance and then finding the respondent's age-specific percentile score along each of the distributions. We then combined the information from the three items into a single scale by taking the average percentile score across all three.

Finally, we model age at first sexual intercourse. Sexual intercourse is not an easy outcome to examine, for two reasons. First, the crucial information is about the timing of initiation of sex. Second, this outcome variable may be censored for some respondents who had not experienced sex by the time they were last interviewed. Consequently, it is necessary to construct event-history records concerning the timing of sex initiation. In each survey wave, respondents are asked if they have had sexual intercourse, and if so, when they did so for the first time. We constructed event history records using information from all three waves. We then estimated the hazard rate of sex initiation (given that one has not initiated sex) using Cox proportional hazards models.

Statistical Analysis

We initially perform separate analyses for Asians and Hispanics while pooling ethnicities within these broad groups. This allows us to include respondents from ethnic groups whose sample size is too small to allow group-specific analyses. In these pooled analyses, we allow for additive differences by ethnicity. We then perform group-specific analyses for the ethnic groups with a sufficient number of cases (Cubans, Mexicans, and Puerto Ricans among Hispanics; Chinese and Filipinos among Asians). We regress each of our nine outcomes on each of our assimilation variables in turn, yielding a series of nine models for each outcome. All models control for age, gender, family income, neighborhood poverty rate, parental education, and family structure, and whether or not a parent was interviewed. Means and descriptions of these variables are found in Appendix B. Because generation and length of stay are correlated with other assimilation variables, we also control for these in models that assess the effects of spatial assimilation, language use, and friendship[8].

This analysis strategy yields a great number of models: 9 (assimilation indicators)×9 (outcome variables) = 81 for Hispanics, another 81 models for Asians, plus still more for specific ethnic groups. We are primarily interested in three things: 1) *The broad overall pattern of statistically significant results.* With so many models, we should expect to have significant coefficients due to chance; therefore we must be cautious about placing much credence in any single significant coefficient. 2) *Consistency across different measures of assimilation.* Do the different assimilation variables affect particular outcomes in a consistent way? If so, we can be more confident that assimilation is indeed associated with those outcomes. 3) *Consistency across different outcome measures within the same domain.* If we find consistent effects for all the educational outcomes, for example, we would be supported in making a broader claim about the effect of assimilation in that general domain.

For continuous outcomes, which comprise the majority, we estimate OLS linear regression models. For our two binary outcomes, high school graduation and college enrollment, we estimate logit models. Therefore, the coefficients in these columns represent differences in log odds associated with one-unit changes in predictors. Finally, for sexual intercourse we estimate Cox proportional hazard models, where the hazard is experiencing first sexual intercourse. We begin the hazard of sex initiation at age 11. We then treat the hazard of first sex as our dependent variable, allowing for censoring at the time of the last observation. In the tables, we present the hazards ratio associated with each assimilation variable. A ratio greater than 1 means that assimilation increases the hazard of experiencing sex – or equivalently, lowers the average age at first sex.

High school graduation, college enrollment, academic achievement, and self-esteem are positive outcomes because a higher value indicates greater educational success or self-esteem. We consider depression and at-risk behaviors to be negative outcomes because a higher value indicates more depression or higher-risk behavior. The implications of a positive assimilation coefficient for well-being therefore vary by outcome, making it ambiguous to use the terms "positive effect" or "negative effect." We have therefore adopted the terms "beneficial effect" and "detrimental effect" in order to clarify the meaning of assimilation coefficients for different outcomes. For positive outcomes, a positive coefficient indicates a beneficial effect, while a negative coefficient represents a detrimental effect; for negative outcomes, the opposite is true. [9] Because of the complexity of interpreting results across different columns, we format the tables so that it is easy for the reader to see at a glance which effects are beneficial and which are detrimental. We highlight all statistically significant beneficial effects and underline all statistically significant detrimental effects.

Results

Descriptive Results

We start by examining the mean of each outcome variable for each ethnic group, by generation. [10] We include third-plus generation ("native") members of each ethnic group for comparison (where sample size permits), although our main analyses are confined to first- and second-generation immigrant youth. While we discuss all nine outcomes, we choose two outcomes,

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[8]We also considered the possibility that the effects of other assimilation variables may differ for first- and second-generation youth. We examined this possibility empirically for a subset of our models, but found no evidence of generational differences in assimilation effects.
[9]For sexual intercourse, we convert coefficients into hazard ratios before presenting them. We interpret a hazard ratio greater than 1 as being a detrimental effect.
[10]Due to the small sample size of first-generation Puerto Ricans in Wave 3, for high school graduation and college enrollment we are unable to present separate results for first- and second-generation Puerto Ricans. The bars shown are actually averages for all first- and second-generation Puerto Rican youth. Also, sample sizes for Cuban youth are too small to include the third generation for this group. Finally, results for third-generation Chinese and Filipino youth should be interpreted cautiously due to small sample sizes (66 for Chinese, 65 for Filipinos).

high school graduation and violence, for graphical presentation (Figures 1 and 2). Figures for other outcomes are posted on our website. In the figures, the left hand axis gives the mean of the outcome variable. For comparison, the right hand axis shows the ratio of each group's mean to that of third-plus generation ("native") whites. Thus, if a bar falls at 1 on the right hand axis, this means there is no difference compared to native whites. The figures allow us to observe two quantities of interest at once: the unadjusted relationship between generational assimilation and each outcome variable and the comparison of immigrant groups to native whites for each outcome.[11] The latter quantity will play an especially important role in our later discussion of the multivariate results. These descriptive results are for illustration only; we leave it until the multivariate results to compute statistical significance and control for potential confounders.

We observe two discernable patterns in the charts. Using native whites as the comparison group, these patterns can be characterized as either convergence with whites or unidirectional change between generations. Straight-line assimilation theory predicts that immigrants' outcomes should become more similar to those of natives with higher generation – that is, a pattern of convergence. We do indeed see this pattern for several outcomes. Figure 1 shows the convergence pattern for high school graduation. The groups that start out disadvantaged relative to native whites in the first generation, Mexicans and Puerto Ricans, have improved outcomes in the second and third generations. The groups that do better than whites in the first generation, Cubans, Chinese, and Filipinos, tend to have poorer outcomes in the second and/ or third generations. Thus, second- and third-generation youth are more similar to native whites than first-generation youth for each ethnic group, regardless of whether first-generation youth had higher or lower graduation rates than those of whites. The results for college enrollment are very similar. Two more outcomes also show this pattern of convergence, and in these cases there is no ethnic variation in the starting position of new immigrants relative to whites. First, all immigrant groups have higher average levels of depression than native whites in the first generation, and all except Puerto Ricans experience improvement in the second generation. Second, the first generation of each immigrant group has lower average substance use levels than native whites, and all experience an increase in substance use by the second and/or third generation.

The second pattern we observe in the charts is unidirectional change, in which there is either deterioration or improvement in the outcome for almost every group regardless of its initial starting position relative to whites. We see this pattern for violence, which is presented in Figure 2. Cuban, Filipino, and Chinese first-generation youth all have lower levels of violent behavior than native whites, while Mexican and Puerto Rican youth have equivalent or higher levels. Yet violence levels rise for every ethnic group between the first and second generations. We observe a similar pattern for delinquency, in which levels rise for all groups in the second and/ or third generations regardless of the level in the first generation. This pattern is more consistent with revisionist versions of assimilation theory, which posit that assimilation may lead to poorer outcomes for immigrant youth, than with classical assimilation theory. It is also possible that whites are not the most appropriate comparison group for some or all of these immigrant groups, making us unable to see a pattern of convergence that may be taking place with respect to a different native group.

Finally, three outcomes – academic achievement, age at first sex, and self-esteem – fit neither of these two characterizations. All immigrant groups other than Chinese have lower academic achievement than native whites in the first generation, but there is no consistent relationship

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[11]We recognize that the choice of a comparison group can have important consequences in studies of assimilation. Here, we choose native whites as the comparison group because they approximate the "core subsociety" identified by Gordon (1964) as the group that immigrants assimilate to. Contemporary scholars have questioned this choice by pointing out that immigrants may assimilate to any of several native groups, making the choice of an appropriate comparison group an important empirical question in its own right. As comparing immigrants and natives is not the primary focus of our study, we leave this question to be addressed in future research.

between achievement and generation. Similarly, age at first sex is higher for each ethnic group than whites, but there is no clear change between the first and second generations. There appear to be few differences in self-esteem by either ethnicity or generation.

Multivariate Results

Our multivariate analysis consists of two steps. In step 1, we estimate a series of regression models for the pooled Asian subsample and pooled Hispanic subsample, including additive ethnicity controls. In step 2, we re-estimate the same models by specific ethnicity. Results from the pooled models are presented in Table 1.

Step 1: Pooled Analyses

1) Educational Outcomes: The first three columns of Table 1 present results for the relationship between assimilation and educational outcomes. The majority of the coefficients are not statistically significant at the .05 level. The 13 coefficients that are significant (6 for Asians and 7 for Hispanics) are largely positive. However, results differ between Asians and Hispanics. For example, living in non-immigrant and non-coethnic neighborhoods is associated with higher academic achievement for Hispanics, but not for Asians. Only two significant coefficients deviate from this pattern of positive effects: For Hispanics, neighborhood % U.S.-born is negatively associated with college enrollment, and length of stay is negatively associated with academic achievement. The results for educational outcomes are thus mixed for Hispanics. Also, the fact that particular measures of assimilation (e.g., length of stay and % U.S.-born) do not always have consistent effects across different outcomes limits our ability to draw firm conclusions about the general relationship between assimilation and educational outcomes for Hispanics. For Asians, by contrast, the results consistently show a positive relationship between assimilation and educational outcomes.

2) Psychological Well-being: The next two columns present results for self-esteem and depression. Again, the overall pattern is one of beneficial effects of assimilation. This pattern is much stronger among Asians than Hispanics. Living in non-immigrant and non-Asian communities is associated with higher self-esteem and lower depression for Asian adolescents. For example, those living in neighborhoods with populations at least 70% U.S.-born score 2.9 points lower on the depression scale than those living in neighborhoods with a higher concentration of immigrants. For Hispanics, most of the coefficients are statistically insignificant; the two that do reach significance, the effects of percent U.S.-born on self-esteem and of English use on depression, both suggest beneficial effects.

3) At-risk Behaviors: The final four columns of Table 1 present results for the at-risk behaviors of delinquency, violence, controlled substance use, and sexual initiation. There is a clear pattern in these columns: the coefficients that are statistically significant consistently indicate detrimental effects of assimilation. They reveal that assimilation is associated with more delinquent and violent behavior, higher substance use, and an earlier age of sexual initiation. It is also important, however, to note that most of the coefficients do not reach statistical significance, especially for delinquency and violence. For sexual intercourse, by contrast, fully half of the assimilation measures are significant and all of them are associated with a younger age at first sexual intercourse.

In summary, assimilation is positively associated with educational outcomes and psychological well-being for Asian adolescents, but also positively associated with substance use and earlier sexual initiation. Our findings are similar for Hispanics, with the exception that the results are somewhat mixed for educational outcomes. The mixture of beneficial and detrimental effects of assimilation shown here clearly goes against "stylized" assimilation theory's prediction of uniformly positive effects of assimilation. Instead, these results are more consistent with our

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"expanded" version of assimilation theory, which predicts that the effect of assimilation will vary by outcome.

While the results in Table 1 give an overview of the relationship between assimilation and well-being among immigrant adolescents, they suffer from an important limitation: They do not tell us whether or how the effects of assimilation differ for subgroups within the broad categories of "Asian" and "Hispanic." Given the great diversity among Asian and Hispanic immigrants from different sending countries, we should not assume that the relationship between assimilation and well-being is the same for all Asian or all Hispanic immigrants. We tested statistically whether the effects of assimilation vary across ethnic groups by running a series of nested-model tests, in which models containing interaction terms between assimilation and the ethnicity dummy variables were compared to the models from Table 1 (which do not contain such interactions). Appendix C gives more methodological details and presents the results of each test. The tests indicate that the effects of assimilation do indeed vary by ethnic group for most of the outcomes and assimilation measures we studied, for both Asians and Hispanics. Therefore, we proceeded to conduct analyses for specific ethnic subgroups.

Step 2: Ethnic-specific Analyses

Mexicans: Results for Mexican immigrant youth are reported in Table 2. For educational outcomes, all but one of the assimilation variables with significant coefficients have beneficial effects. For example, English language use at home is associated with an increase of .82 in the log-odds of enrolling in college. Living in a non-immigrant or a non-Hispanic neighborhood is associated with an increase in academic achievement of about .05-.06 points on our standardized scale. Length of stay is the exception to this pattern of positive assimilation effects: It is negatively associated with both high school graduation and academic achievement.

As for Hispanics in general, assimilation has few significant effects on psychological outcomes, delinquency or violence. The two significant coefficients in these columns indicate that speaking English is related to lower levels of depression and neighborhood % U.S.-born is associated with more violent behaviors. Controlled substance use and sexual intercourse are more strongly associated with assimilation: Three of our assimilation measures (length of stay, generation, and English use) are associated with higher use of controlled substances, while another three (length of stay, non-immigrant neighborhood, and non-Hispanic neighborhood) are associated with earlier sexual initiation. Thus, the results for Mexicans resemble those for pooled Asians and pooled Hispanics – mixed but largely positive associations with educational outcomes and psychological well-being, but also positive associations with at-risk behaviors. These mixed beneficial and detrimental effects are once again contrary to "stylized" assimilation theory but consistent with our expanded interpretation of classical assimilation theory.

Puerto Ricans: Results for Puerto Rican immigrant adolescents are reported in Table 3. Based on the pattern of results we have observed in the earlier tables, let us divide Table 3 into two pieces: the first five columns (High School Graduation through Depression) and the last four columns (Delinquency through Sexual Intercourse). In the tables we have examined above, there were largely beneficial effects in the first five columns (indicated by shading) and largely detrimental effects in the last four columns (indicated by underlining). The results for Puerto Ricans[12], presented in Table 3, look quite different. Of the 63 coefficients presented, 9 are statistically significant, and all of these indicate beneficial effects. The results in the first five columns are similar to those for Mexicans, with the exception that there is no ambiguity about

[12]Due to the small sample size of first-generation Puerto Rican immigrants (N=49), we do not estimate the effect of length of stay for this group.

the effect of assimilation on educational outcomes (it is possible that this is because we could not estimate the effect of length of stay) and no significant effect on depression. The results in the last four columns, however, are very different: Whereas for Mexicans assimilation is associated with more at-risk behavior, for Puerto Ricans it is associated with lower levels of violence, less controlled substance use, and a later age at first sexual intercourse.

On closer examination, these effects are found largely for one of our assimilation measures – inter-ethnic friendship. Of the 9 significant effects in the table, inter-ethnic friendship accounts for 5. It has positive effects on high school graduation and college enrollment, and negative effects on violence, controlled substance use, and the hazard of initiating sexual intercourse. Our earlier discussions of assimilation theory and endogeneity suggest two possible interpretations of this finding. First, recall that inter-ethnic friendship is a behavioral measure of assimilation, are thus consistent with "stylized" classical assimilation theory rather than our "expanded" version of assimilation theory. Regardless of the specific interpretation, revisionist theories that predict negative effects of assimilation are clearly not supported for Puerto Ricans.

Cubans: Results for the 453 Cuban youth in our data are reported in Table 4. The main result in this table is the paucity of statistically significant coefficients. No effects of assimilation on either educational or psychological outcomes reach the .05 significance level. For at-risk behaviors there are two significant coefficients: Each additional year in the United States is associated with .07 more delinquent acts and raises the hazard of sexual intercourse by a factor of 1.06. The at-risk behavior results are thus consistent with those for other groups in indicating a detrimental effect of assimilation, but there are far fewer significant results for Cubans than for any other group. If there is a strong relationship between assimilation and the well-being of Cuban youth, we are unable to uncover it with these data. We therefore cannot draw any conclusions about the applicability of the various versions of assimilation theory to Cuban youth.

Chinese: Results for Chinese immigrant adolescents are reported in Table 5.[13] Again, let us divide the table into two parts, the first five columns and the last four columns. We begin discussion with the last four columns. For Chinese adolescents, the results in these columns look quite similar to the pooled results for Asians and the results for Mexicans: Where there are significant effects, they show that assimilation is related to increased at-risk behavior. All of the significant results in these columns come from just two of our assimilation measures, inter-ethnic friendship and English language use. Chinese youth who speak English at home report about .4 more delinquent acts per year, score about 7.6 percentile points higher on substance use, and have 1.85 times the hazard of initiating sexual intercourse compared with Chinese youth who do not speak English at home. Having a greater proportion of non-Chinese friends is positively related to violence and controlled substance use. Thus, there appears to be a similar relationship between assimilation and at-risk behavior for Chinese adolescents as for the other groups we have discussed so far. Because English use and friendship are our two behavioral measures of assimilation, however, these results are particularly open to the possibility that assimilation is endogenous with the outcome variables.

The results in the first five columns, by contrast, do not always follow the same pattern of beneficial effects of assimilation that we observed for other groups. Results for psychological measures are similar to those for other groups – there are few significant coefficients, but those that are significant indicate a beneficial effect of assimilation. The story is different for education. We did not have a sufficient sample size of Chinese to estimate the models for

[13]Due to the small sample size of first-generation Chinese immigrants in Wave 3 data, we are unable to estimate results for the effect of length of stay on high school graduation. We are also unable to model college enrollment due to the very small number of Chinese adolescents who do not enroll in college.

college enrollment, so we are forced to limit our discussion of educational outcomes to high school graduation and academic achievement. The effects of assimilation on these outcomes are mixed: Being second-generation is negatively associated with high school graduation, but having more non-Chinese friends has a positive effect. For academic achievement, living in a non-Asian neighborhood has a positive effect, but both English use and inter-ethnic friendship have negative effects. Such inconsistency both within columns and across columns for the same assimilation measure alerts us to the need to exercise caution in interpreting the results, rendering us unable to draw any firm conclusions about the relationship between assimilation and educational outcomes for Chinese youth.

Filipinos: Results for Filipino youth are reported in Table 6. Again, let us split the table into two parts: the first five columns and the last four columns. It is clear that for Filipinos, there is more inconsistency in the effects of assimilation within columns than for the other groups. We observe the same basic pattern of primarily beneficial effects in the first part of the table and primarily detrimental effects in the second part, but these patterns do not hold true for all the assimilation measures. For example, both high school graduation and college enrollment are associated positively with length of stay but negatively with inter-ethnic friendship. This friendship effect is surprising given that inter-ethnic friendship is positively related to academic achievement for Filipinos. Thus, there is little consistency in the effects of assimilation on educational outcomes for Filipino youth. There are no significant effects on self-esteem, but all of the spatial assimilation measures are associated with lower depression. The results for psychological outcomes are thus similar to those for other groups.

If we temporarily ignore one of our assimilation measures, the results in the final four columns show a detrimental relationship between assimilation and at-risk behaviors for Filipinos, consistent with results for other ethnic groups. Length of stay and English language use are both related to higher levels of delinquency, violence, and substance use. Living in a non-immigrant neighborhood is associated with a higher hazard of experiencing first sexual intercourse. Not all effects of assimilation are detrimental for at-risk behaviors, however: Living in a non-Asian neighborhood is associated with less delinquency, less violence, and lower use of controlled substances. This beneficial effect of living in a non-ethnic neighborhood on at-risk behaviors is the only such effect we observe for any ethnic group. It is difficult to derive any general sense of the relationship between assimilation and outcomes for Filipinos in light of these results.

Summary: For most ethnic groups, the effects of assimilation on education are either beneficial or mixed, the effects on psychological outcomes are beneficial (but sparse), and the effects on at-risk behavior are largely detrimental. The major exception is Puerto Ricans, who have beneficial effects of assimilation regardless of the outcome. Finally, there are very few significant effects of assimilation for Cubans, but the few we find are consistent with those for other groups in indicating detrimental effects of assimilation on at-risk behaviors.

Discussion

Is assimilation theory still relevant? The answer is both yes and no, depending on one's interpretation of the theory. If assimilation theory is taken to mean that assimilation necessarily produces beneficial effects on social outcomes, our empirical results clearly reject it. If assimilation theory is interpreted as a mere description of the general process by which immigrants and natives become more similar, there is evidence in our study that supports it. Given the assumed and observed variability in the effects of assimilation, the question posed by the title of this paper, "Is assimilation theory dead?" is only rhetorical; the answer depends on the interpretation of the theory. Furthermore, if assimilation theory is taken to mean a description of a gradual process, our question cannot have a definite answer because the theory

is not falsifiable. However, empirical research can inform us how closely the stylized assimilation trajectory describes the experiences of certain groups in certain outcomes.

We have reached the above conclusion through a comprehensive study that operationalizes assimilation in many different ways and examines a broad array of social outcomes using a nationally-representative sample of adolescents. Our research design is based on the premise that there is no simple relationship between assimilation and well-being. Our results confirm this premise, showing that the effects of assimilation are indeed highly variable, depending on the ethnic group, assimilation measure, and outcome under consideration.

For example, for the majority of the ethnic groups we examined, we found that assimilation has detrimental effects on substance use and age at first sexual intercourse. If we had looked at just these two outcomes (or just one of the two), we might have been tempted to conclude that immigrant children are better off if they avoid assimilation. Because we examined a wide variety of outcomes, we know that such a conclusion would be too simplistic.

Although assimilation predicts more substance use and earlier sex, we also found it to be related to some positive outcomes. For instance, there is a clear positive relationship between assimilation and educational outcomes for Mexicans and Puerto Ricans, as well as evidence of beneficial psychological effects for these two groups and for Chinese and Filipino youth. Given this variability by outcomes and ethnic groups, it is impossible to speak of an overall beneficial or detrimental effect of assimilation. The debate about the value of delayed or limited assimilation for immigrant children, then, may not be resolvable on purely empirical grounds: It is likely that there are tradeoffs involved, with limited assimilation being better for some groups of children with respect to some outcomes, but also having costs in terms of other outcomes. Ultimately, judgments about whether assimilation is beneficial or detrimental, on balance, necessarily entail evaluating the relative importance of different outcomes.

How do we explain the high level of variability in our results? Can we make theoretically informative observations based on *which* outcomes are positively or negatively affected by assimilation for *which* ethnic groups? To aid our interpretation of the results we recall the definition of assimilation, given by Alba and Nee (1997: 863), as the decline of differences between immigrants and natives. Thus, a key factor in determining the direction of the effect of assimilation on a particular outcome should be the position of new immigrants relative to natives on that particular outcome. If unassimilated members of an immigrant group do better on a particular outcome than natives, we would expect assimilation to be related to immigrants' deterioration in that outcome. Likewise, if the immigrant group starts off at a disadvantage, we would expect assimilation to lead to improvement. In other words, we would expect to see a pattern of convergence.

We recall the generational comparisons in outcomes discussed earlier, illustrated in Figures 1 and 2. If our convergence hypothesis is correct, we would expect the following: if new immigrants start out at a disadvantage relative to natives, the effect of assimilation is beneficial; if new immigrants start out at an advantage, the effect of assimilation is detrimental. While evaluating this hypothesis in light of the descriptive results showing changes across immigrant generations, we found it to be true for most, but not all, outcomes. We can now add an examination of our other assimilation measures to the discussion.

Our multivariate results are consistent with a pattern of convergence for most ethnic groups on most outcomes. This pattern is most clear for Chinese youth. First-generation Chinese youth have better outcomes than native whites with respect to high school graduation, academic achievement, delinquency, violence, substance use, and age at first sex, but have worse psychological outcomes. Therefore we would predict that greater assimilation would be related to more risky behavior, poorer educational outcomes, and better psychological outcomes. In

fact, assimilation has mixed but primarily detrimental effects on the two educational outcomes, consistently detrimental effects on the at-risk behaviors, and beneficial effects on psychological outcomes. More assimilated Chinese youth, then, may lose some of the advantages of their unassimilated peers relative to native whites, but there is also evidence that they have greater psychological well-being.

There is a similar pattern of convergence for Mexican youth, with assimilation being primarily positively related to academic outcomes (on which first-generation Mexican youth are disadvantaged) but also tending to increase substance use and the hazard of initiating sexual intercourse (outcomes for which the first generation is advantaged). For Mexicans, however, delinquency and violence do not fit the pattern of convergence: Assimilation is positively related to violence, despite the fact that first-generation Mexican youth already have higher levels of these behaviors than native whites.

Puerto Rican youth also demonstrate a pattern of convergence towards native-born whites. While this group is distinct in having only beneficial effects of assimilation, it also stands out (along with Mexicans) as being one of the most disadvantaged groups in the first generation, having poorer outcomes than native whites with respect to all academic outcomes, violence, and depression. Thus, the significant beneficial effects of assimilation on violence and the three academic outcomes can be interpreted as convergence. However, we also find results for Puerto Rican youth that do not conform to this pattern of convergence: Assimilation is associated with a reduction in substance use and a later age at first sex, but first-generation Puerto Rican youth do better than native whites on these outcomes.

The convergence hypothesis is more difficult to evaluate for Cuban and Filipino youth. For Cuban youth, we found very few significant effects of assimilation. The two significant coefficients, however, do support an interpretation of convergence: Assimilation is related to higher levels of delinquency and an earlier age at first sex, and first-generation Cuban youth are advantaged relative to native whites with respect to these outcomes. Finally, we are unable to clearly interpret the results for Filipinos due to the inconsistency in the effects of assimilation. For the one outcome domain that is not affected differently by different assimilation measures, psychological well-being, the results do support convergence: First-generation Filipino youth have higher depression levels than native whites, and assimilation has a beneficial effect on this outcome.

In sum, there seems to be a relationship between the effect of assimilation and the outcome-specific starting position of immigrants relative to natives, but this relationship is not uniform. Our analytical strategy does not specifically test this hypothesis of convergence. Therefore, we suggest it as a potentially useful framework in which to evaluate and understand variability in the effect of assimilation across different outcomes and different ethnic groups, rather than an explanation for such variability. We hope that future research can clarify the relationship between the effect of assimilation and the relative positions of new immigrants and natives with respect to a particular outcome. Such research will also have to grapple with the important question of to whom immigrant youth of varying ethnicities, socio-economic backgrounds, and geographic locations assimilate—in other words, to identifying the appropriate native comparison group. While native whites may be an appropriate comparison group for the more highly educated and socioeconomically advantaged immigrant groups, native minority groups may actually be a more appropriate comparison group for low-skilled labor immigrants, who are more likely to settle in largely nonwhite urban areas.

Conclusion

Like other recent work on immigrant adjustment, this paper suggests that there is a complex relationship between assimilation and immigrant well-being. While other studies have focused on diversity among immigrants or diversity among contexts as the driving factor for this complexity, we focus on differential effects across the domain of outcome. There are four main, broad findings from our study. First, assimilation is associated with higher levels of at-risk behaviors among immigrant adolescents, for both Hispanics and Asians of various ethnicities. Second, assimilation is associated with higher levels of academic achievement for both Asians and Hispanics on average, but there is considerable ethnic heterogeneity in its effect. Third, assimilation is associated positively with psychological well-being, although the evidence is relatively weak for most ethnic groups. Fourth, whether assimilation has a detrimental or beneficial effect on a particular outcome for a particular group appears to be related to how new immigrants fare on that particular outcome relative to natives.

These results suggest that it would be naive to expect that assimilation should affect immigrants either positively or negatively. However, we do not see this statement as a rejection of the concept of assimilation. Instead, we suggest an interpretation that allows assimilation to have different effects for different outcomes. This reinterpretation is consistent with a conceptualization of assimilation, rooted in the classic form of the theory, which emphasizes a process through which differences between groups gradually decline, rather than a simple trajectory of improving outcomes for immigrants.

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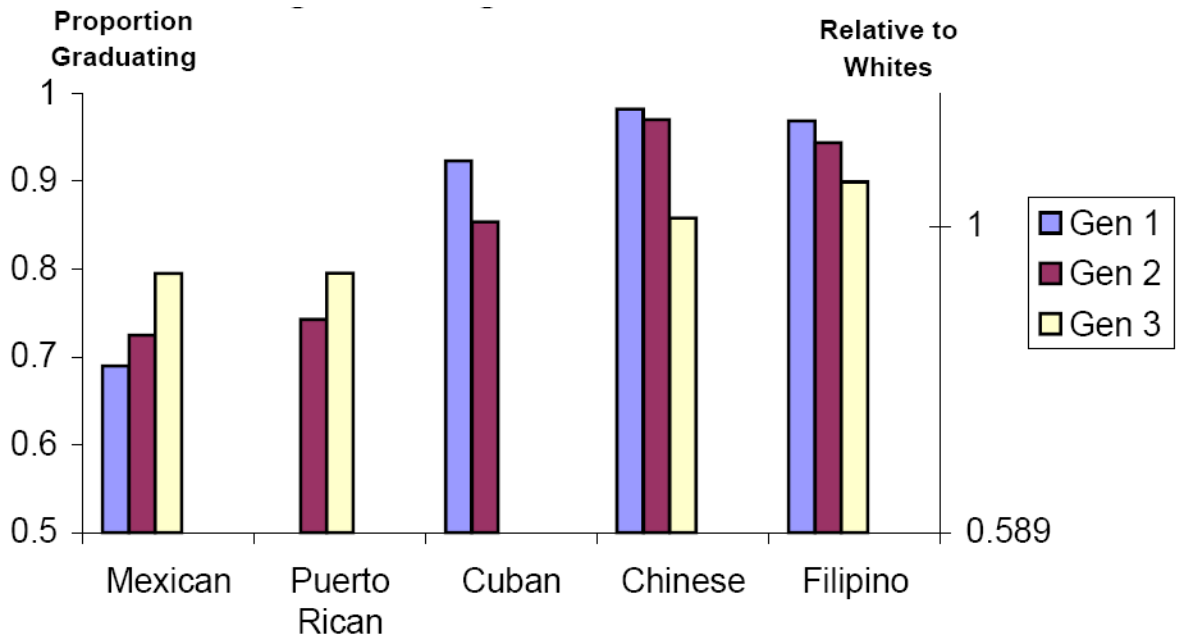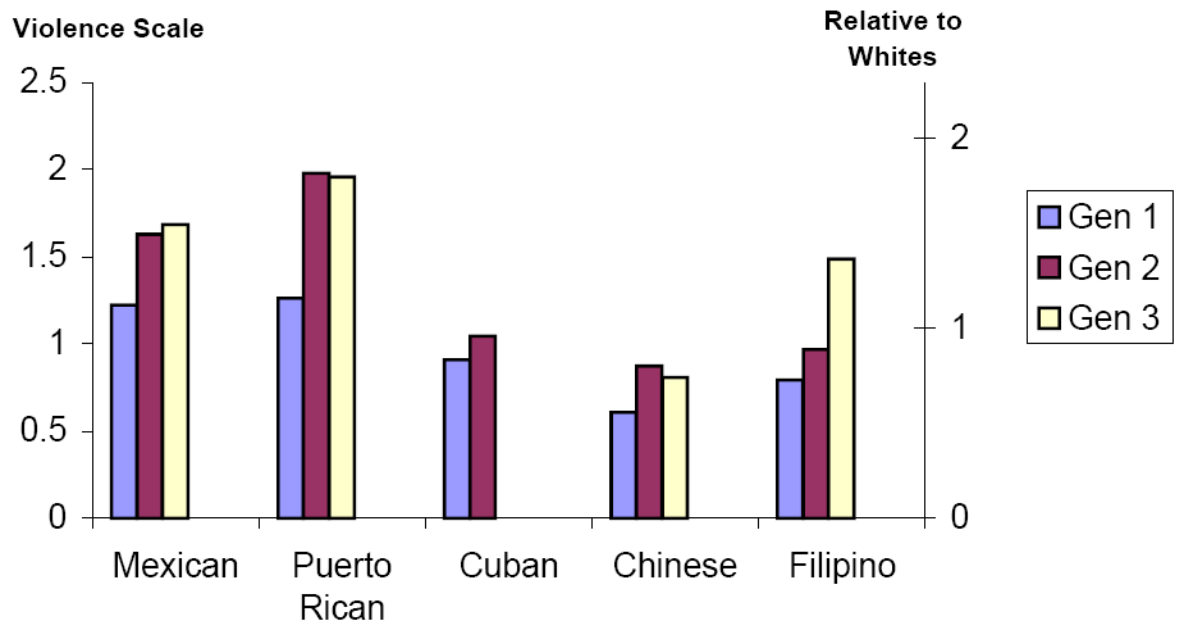
Figure 1.
High School Graduation

Figure 2.
Violence

Table 1

Effects of Assimilation - Pooled Ethnic Groups

	High School Graduation[a]	College Enrollment[a]	Academic Achievement[b]	Self-Esteem[b]	Depression[b]	Delinquency[b]	Violence[b]	Controlled Substance Use[b]	Sexual Intercourse[b,d]
Hispanics: Assimilation Measure									
Length of Stay	-0.063	0.078	-0.032 ***	0.002	-0.036	0.051 **	0.046 **	0.533 ***	1.038 *
Length of Stay > 5 years	0.226	1.014 **	-0.063	0.045	0.738	0.145	0.000	1.992	1.310
U.S.-Born	-0.251	-0.278	-0.037	0.020	-0.062	0.578 ***	0.392 ***	4.978 ***	1.328 ***
% U.S.-Born in Neighborhood	-0.125 *	-0.122 **	0.068 ***	0.034 ***	-0.285 *	-0.018	0.035	-0.004	1.053 **
% U.S.-Born > 70%	-0.284	-0.352	0.187 ***	0.087 *	-0.997	0.167	0.167	0.528	1.241 **
% Non-Co-Ethnics in Neighborhood	-0.063	-0.065	0.057 ***	0.010	-0.120	-0.001	0.031	0.183	1.053 ***
% Non-Co-Ethnics > 60%	-0.348	-0.348	0.197 **	0.026	-0.215	-0.087	0.173	1.476	1.262 **
English language use in home	0.292	0.434 *	0.097	0.067	-1.674 **	0.089	-0.218	3.402 ***	1.131
Proportion of non-coethnic friends	0.125	0.640 *	0.159 *	0.000	-1.292	0.410	0.257	0.766	1.129
Asians: Assimilation Measure									
Length of Stay	0.320 **	-0.004	0.008	0.007	-0.226 *	0.052 *	-0.001	0.827 ***	1.055 ***
Length of Stay > 5 years	2.555 ***	1.506 ***	0.216 *	0.044	-1.775	0.300	0.117	3.610 **	1.122
U.S.-Born	-0.041	-0.046	-0.015	0.066	-1.718 *	0.151	-0.014	2.912 *	1.269
% U.S.-Born in Neighborhood	0.263	0.237	0.053 *	0.068 ***	-0.771 ***	-0.073	-0.092	0.455	1.142 ***
% U.S.-Born > 70%	1.113 *	1.029 **	0.113	0.194 ***	-2.916 ***	-0.388 *	-0.360 *	0.975	1.734 ***
% Non-Co-Ethnics in Neighborhood	0.016	0.008	0.002	0.051 **	-0.528 **	-0.075	-0.058	-0.363	1.034
% Non-Co-Ethnics > 75%	-1.125 *	-0.279	-0.107	0.169 **	-2.334 ***	-0.383 *	-0.346 *	-2.237	1.432 **
English language use in home	0.307	-0.115	-0.177 *	0.044	-0.432	0.501 ***	-0.001	6.376 ***	1.754 ***
Proportion of non-coethnic friends	0.761	0.584	0.366 ***	0.093	-1.573	-0.332	-0.326	-0.150	0.808

Statistical Significance:

*
   p<.10

**
  p< .05

***
  p<.01

Notes:

[a] Wave 3 data. N = 713 for Asians; N = 1,204 for Hispanics

[b] Wave 1 data. N = 993 for Asians; N = 1.661 for Hispanics

[c] Models control for specific ethnicity, age, sex, family income, parental education, neighborhood poverty rate, and family structure. Models using assimilation measures other than length of stay and generation also control for length of stay and generation.

[d] Hazard ratio of intitiating sexual intercourse.

Highlighting indicates a beneficial effect of assimilation that is statistically significant at the .05 level

Underlining indicates a detrimental effect of assimilation that is statistically significant at the .05 level

Table 2

Effects of Assimilation for Mexicans

Assimilation Measure	High School Graduation[a]	College Enrollment[a]	Academic Achievement[b]	Self-Esteem[b]	Depression[b]	Delinquency[b]	Violence[b]	Controlled Substance Use[b]	Sexual Intercourse[b,d]
Length of Stay	-0.225***	0.125	-0.044**	0.029*	-0.101	0.082*	0.059*	0.901**	1.066**
Length of Stay > 5 years	-0.903	0.885	-0.036	0.148	1.361	0.074	0.406	2.622	1.969***
U.S.-Born	-0.269	-0.040	-0.012	0.041	-0.256	0.415*	0.349*	4.486**	1.129
% U.S.-Born in Neighborhood	-0.181	-0.067	0.058**	0.024	-0.184	0.027	0.149**	0.475	1.100*
% U.S.-Born > 70%	-0.014	-0.086	0.153*	0.018	-0.858	0.249	0.360*	0.631	1.317**
% Non-Co-Ethnics in Neighborhood	-0.060	-0.031	0.054***	-0.017	-0.025	0.001	0.046	0.271	1.082***
% Non-Co-Ethnics > 60%	-0.509	-0.533	0.125	-0.079	0.340	-0.262	0.144	1.171	1.283*
English language use in home	0.672	0.822**	0.024	0.099	-3.210***	0.268	-0.079	6.064***	1.260*
Proportion of non-coethnic friends	0.543	0.814	0.142	0.083	-1.862	0.911*	0.670*	2.438	1.086

Statistical Significance:

* p<.10

** p<.05

*** p<.01

Notes:

[a] Wave 3 data. N = 548

[b] Wave 1 data. N = 732

[c] Models control for specific ethnicity, age, sex, family income, parental education, neighborhood poverty rate, and family structure. Models using assimilation measures other than length of stay and generation also control for length of stay and generation.

[d] Hazard ratio of intitiating sexual intercourse.

Highlighting indicates a beneficial effect of assimilation that is statistically significant at the .05 level

Underlining indicates a detrimental effect of assimilation that is statistically significant at the .05 level

Table 3

Effects of Assimilation for Puerto Ricans

Assimilation Measure	High School Graduation[a]	College Enrollment[a]	Academic Achievement[b]	Self-Esteem[b]	Depression[b]	Delinquency[b]	Violence[b]	Controlled Substance Use[b]	Sexual Intercourse[b,d]
Length of Stay	--	--	--	--	--	--	--	--	--
Length of Stay > 5 years	--	--	--	--	--	--	--	--	--
U.S.-Born	0.067	-0.165	0.288*	-0.095	0.405	0.437	0.661	0.209	1.259
% U.S.-Born in Neighborhood	0.062	-0.005	0.110***	0.030	0.161	-0.050	-0.063	-0.836	1.034
% U.S.-Born > 70%	0.629	0.043	0.425***	0.176	1.031	-0.047	-0.230	-2.145	1.073
% Non-Co-Ethnics in Neighborhood	0.110	-0.027	-0.010	0.034	-0.148	0.003	-0.006	-0.131	1.025
% Non-Co-Ethnics > 60%	0.605	0.398	-0.128	0.113	-0.582	0.142	0.202	1.483	1.245
English language use in home	1.234**	0.971	0.089	0.069	0.525	0.188	-0.307	2.319	0.668**
Proportion of non-coethnic friends	2.724**	2.709***	0.348	-0.152	-2.465	-0.093	-2.128***	-13.53**	0.329***

Statistical Significance:

*
  p<.10

**
  p< .05

***
  p<.01

Notes:

[a] Wave 3 data. N = 157

[b] Wave 1 data. N = 249

[c] Models control for specific ethnicity, age, sex, family income, parental education, neighborhood poverty rate, and family structure. Models using assimilation measures other than length of stay and generation also control for length of stay and generation.

[d] Hazard ratio of intitiating sexual intercourse.

Highlighting indicates a beneficial effect of assimilation that is statistically significant at the .05 level

Underlining indicates a detrimental effect of assimilation that is statistically significant at the .05 level

Table 4

Effects of Assimilation for Cubans

Assimilation Measure	High School Graduation[a]	College Enrollment[a]	Academic Achievement[b]	Self-Esteem[b]	Depression[b]	Delinquency[b]	Violence[b]	Controlled Substance Use[b]	Sexual Intercourse[b,d]
Length of Stay	0.036	0.041	0.013	-0.008	0.010	0.071**	0.022	0.040	1.060***
Length of Stay > 5 years	0.227	-0.060	0.069	0.019	-0.579	0.722*	0.149	4.889*	1.290
U.S.-Born	-0.135	-0.745*	-0.206	-0.118	-0.273	-0.057	0.116	1.922	0.996
% U.S.-Born in Neighborhood	-0.032	-0.098	0.052*	-0.009	-0.189	0.056	0.064	-0.070	1.006
% U.S.-Born > 70%	-0.271	-0.984*	0.379*	-0.114	-1.154	0.331	0.187	-1.976	0.831
% Non-Co-Ethnics in Neighborhood	-0.033	-0.070	0.045*	-0.016	-0.147	0.076	0.075	0.155	1.005
% Non-Co-Ethnics > 60%	-0.043	-0.425	0.360*	-0.108	-1.044	0.685	0.627	1.008	0.968
English language use in home	-0.343	-0.114	0.241	-0.187	0.759	0.080	-0.068	2.529	1.458*
Proportion of non-coethnic friends	0.262	-0.449	0.044	-0.218	-0.977	0.090	0.049	0.306	1.436

Statistical Significance:

*
  p<.10

**
  p<.05

***
  p<.01

Notes:

[a] Wave 3 data. N = 312

[b] Wave 1 data. N = 453

[c] Models control for specific ethnicity, age, sex, family income, parental education, neighborhood poverty rate, and family structure. Models using assimilation measures other than length of stay and generation also control for length of stay and generation.

[d] Hazard ratio of intitiating sexual intercourse.

Highlighting indicates a beneficial effect of assimilation that is statistically significant at the .05 level

Underlining indicates a detrimental effect of assimilation that is statistically significant at the .05 level

Table 5

Effects of Assimilation for Chinese

Assimilation Measure	High School Graduation[a]	College Enrollment[a]	Academic Achievement[b]	Self-Esteem[b]	Depression[b]	Delinquency[b]	Violence[b]	Controlled Substance Use[b]	Sexual Intercourse[b,d]
Length of Stay	--	--	0.004	0.055 ***	-0.204	0.033 *	0.039	0.122	0.995
Length of Stay > 5 years	--	--	0.293	0.320 *	-3.795 **	0.193	-0.438	-3.974	0.815
U.S.-Born	-1.920 **	--	0.156	0.060	-1.285	0.371	0.258	3.020	0.745
% U.S.-Born in Neighborhood	0.527 *	--	0.004	0.020	0.755 *	-0.069	-0.035	-0.283	1.175 *
% U.S.-Born > 70%	0.370	--	0.262	0.090	1.412	-0.138	-0.616	-4.261	1.464
% Non-Co-Ethnics in Neighborhood	-0.080	--	0.079 *	-0.013	0.628 *	-0.001	-0.039	0.047	1.054
% Non-Co-Ethnics > 75%	-1.388	--	0.421 **	-0.010	1.014	0.007	-0.422	-1.432	1.253
English language use in home	-0.875	--	-0.445 ***	-0.115	1.174	0.393 **	0.247	7.556 ***	1.855 **
Proportion of non-coethnic friends	4.553 ***	--	-0.927 ***	-0.112	2.640	0.456 *	0.706 **	9.129 ***	2.208 *

Statistical Significance:

*
p<.10

**
p<.05

***
p<.01

Notes:

[a]Wave 3 data. N = 199

[b]Wave 1 data. N = 266

[c]Models control for specific ethnicity, age, sex, family income, parental education, neighborhood poverty rate, and family structure. Models using assimilation measures other than length of stay and generation also control for length of stay and generation.

[d]Hazard ratio of intitiating sexual intercourse.

Highlighting indicates a beneficial effect of assimilation that is statistically significant at the .05 level

Underlining indicates a detrimental effect of assimilation that is statistically significant at the .05 level

Table 6

Effects of Assimilation for Filipinos

Assimilation Measure	High School Graduation[a]	College Enrollment[a]	Academic Achievement[b]	Self-Esteem[b]	Depression[b]	Delinquency[b]	Violence[b]	Controlled Substance Use[b]	Sexual Intercourse[b,d]
Length of Stay	0.377 ***	0.347 **	-0.001	0.006	-0.024	0.122 ***	0.074 **	1.144 ***	1.012
Length of Stay > 5 years	1.635 ***	3.525 ***	-0.199	0.235 *	-1.804	0.623 *	0.569 **	5.366 *	0.994
U.S.-Born	0.066	-0.117	-0.039	-0.023	-1.590	0.107	-0.120	5.055 *	1.296
% U.S.-Born in Neighborhood	-0.187	-0.028	0.068	0.043	-2.003 ***	-0.199 *	-0.151 *	-0.620	1.125
% U.S.-Born > 70%	0.776	-0.346	-0.005	0.173	-4.728 ***	-0.454	-0.150	1.076	1.798 ***
% Non-Co-Ethnics in Neighborhood	0.183	0.131	0.006	0.031	-0.742 ***	-0.171 ***	-0.120 ***	-1.544 ***	1.010
% Non-Co-Ethnics > 75%	-0.364	0.256	-0.091	0.121	-3.681 ***	-0.496	-0.377 *	-4.860 *	1.227
English language use in home	-4.018 *	-0.177	-0.166	-0.085	1.323	0.630 **	0.395 **	7.485 ***	1.094
Proportion of non-coethnic friends	-2.633 **	-3.159 ***	0.331 **	0.004	-2.703	-0.743 *	-0.346	-1.652	1.082

Statistical Significance:

*
 p<.10

**
 p<.05

***
 p<.01

Notes:

[a] Wave 3 data. N = 317

[b] Wave 1 data. N = 408

[c] Models control for specific ethnicity, age, sex, family income, parental education, neighborhood poverty rate, and family structure. Models using assimilation measures other than length of stay and generation also control for length of stay and generation.

[d] Hazard ratio of intitiating sexual intercourse.

Highlighting indicates a beneficial effect of assimilation that is statistically significant at the .05 level

Underlining indicates a detrimental effect of assimilation that is statistically significant at the .05 level

Appendix A

Patterns of Assimilation by Race and Generation

Assimilation Measure	Mean for Asians			Mean for Hispanics		
	First Generation	Second Generation	Total	First Generation	Second Generation	Total
Length of Stay	8.38	N/A	8.38	8.46	N/A	8.46
Length of Stay > 5 years	0.75	N/A	0.75	0.74	N/A	0.74
U.S. - Born	0.00	1.00	0.41	0.00	1.00	0.62
% U.S.-Born in Neighborhood	76.3	81.0	78.2	68.0	77.2	73.7
% U.S.-Born > 70%	0.58	0.74	0.65	0.58	0.71	0.66
% Non-Co-Ethnics in Neighborhood	80.8	79.5	80.2	55.8	66.7	62.6
% Non-Co-Ethnics> 75% (Asians), >60% (Hispanics)	0.66	0.70	0.68	0.54	0.65	0.61
English language use in home	0.40	0.74	0.54	0.21	0.44	0.35
Proportion of non-coethnic friends	0.55	0.67	0.60	0.42	0.57	0.52

Notes: Wave 1 data. N = 993 for Asians; N = 1,661 for Hispanics

Appendix B

Variable Descriptions and Means

Variable	Variable Description	Mean for Asians	Mean for Hispanics
Assimilation Measure			
Length of Stay	Years since arrival in U.S., for first-generation immigrants	8.38	8.46
Length of Stay > 5 years	Binary: 1= Length of stay > 5 years, 0= Length of stay <=5 years	0.75	0.74
U.S.- Born	Binary: 1=second generation, 0=first generation	0.41	0.62
% U.S.-Born in Neighborhood	% of U.S-born persons in respondent's neighborhood (higher=fewer co-ethnics)	78.2	73.7
% U.S.-Born > 70%	Binary: 1=neighborhood population more than 70% U.S. born	0.65	0.66
% Non-Co-Ethnics in Neighborhood	% of non-Hispanics (non-Asians) in neighborhood, for Hispanic (Asian) respondents	80.2	62.6
% Non-Co-Ethnics> 75% (Asians), >60% (Hispanics)	Binary: 1=% Co-ethnics in neighborhood less than approximate race-specific median	0.68	0.61
English language use in home	Uses English language at home	0.54	0.35
Proportion of non-coethnic friends	Proportion of the respondent's friends who are not of the same ethnicity	0.60	0.52
Context Measure			
Poor Neighborhood	Neighborhood context: Poverty rate in neighborhood	0.11	0.19
Outcome Measure			
High School Graduation[a]	Binary: 1=respondent graduated from high school by Wave 3	0.91	0.73
College Enrollment[a]	Binary: 1=respondent enrolled in college by Wave 3	0.84	0.55
Academic Achievement	Average grades in Wave 1, standardized and adjusted for achievement differences across schools	0.29	-0.43
Self-Esteem	Score on self-esteem scale (higher=more self esteem)	2.98	3.02
Depression	Score on depression scale	12.21	12.61
Delinquency	Frequency of delinquent acts in last year	1.06	1.22
Violence	Frequency of violent acts in last year	0.96	1.37
Controlled Substance Use	Age-specific percentile score in combined use of alcohol, tobacco, and marijuana	43.11	45.97
Initiation of Sex	Age of first sexual intercourse		
Control Variables			
Age	Respondent's age at Wave 1 interview	16.13	16.05
Gender	Binary: 1=Female	0.47	0.51
Parent interview missing	No parent interview (hence no family income information)	0.32	0.17
Family Income	Log of family income, imputed for those with missing parent interview	10.40	9.75
Average parental education	Average of parental education in 2-parent family, parent's education in single-parent family	13.65	10.98
Single parent family	Binary: 1=single parent family, 0 otherwise	0.17	0.28
Stepparent family	Binary: 1=stepparent family, 0 otherwise	0.09	0.15

Notes:

[a] Wave 3 data. N = 713 for Asians; N = 1,204 for Hispanics

[b] All other measures came from Wave 1 data. N = 993 for Asians; N = 1,661 for Hispanics

Appendix C

Ethnic Differences in the Effects of Assimilation

	High School Graduation[a]	College Enrollment[a]	Academic Achievement[b]	Self-Esteem[b]	Depression[b]	Delinquency[b]	Violence[b]	Controlled Substance Use[b]
Hispanics:								
Assimilation Measure								
Length of Stay	***		***	***				***
Length of Stay > 5 years	***	**	***	***			**	
U.S.- Born	***	***	***	**		***	**	**
Neighborhood								
% U.S.-Born > 70%	***	***	***	**		**		
% Non-Co-Ethnics in	***	***		***		***		
Neighborhood								
% Non-Co-Ethnics> 60%	***	**	***	***	***	**	**	
English language use in home	**	***	***	***				
Proportion of non-coethnic friends		**						
Asians:								
Assimilation Measure								
Length of Stay	***	***				***	***	***
Length of Stay >> 5 years			**				**	**
U.S.- Born	***							**
Neighborhood								
% U.S.-Born > 70%			***		***			
% Non-Co-Ethnics in								
Neighborhood								
% Non-Co-Ethnics> 75%	***						**	**
English language use in home		***	***					
Proportion of non-coethnic friends		***	***					

Statistical Significance:

**
  p< .05

***
  p<.01

Methodology: The cells contain statistical significance of F (for continuous outcomes) or chi-square (for binary outcomes) computed from nested model tests in which we compared the models in Table 1 to models that added interaction terms between the assimilation variable and the series of ethnic dummy variables. A significant value of F (or chi-square) indicates that there is statistically significant ethnic variation in the effect of assimilation on the outcome in question.

Notes:

[a] Wave 3 data. N = 713 for Asians; N = 1,204 for Hispanics

[b] Wave 1 data. N = 993 for Asians; N = 1.661 for Hispanics

[c] Models control for age, sex, family income, parental education, neighborhood poverty rate, and family structure. Models using assimilation measures other than length of stay and generation also control for length of stay and generation.

[d] Hazard ratio of intitiating sexual intercourse.