

# **Education of Mexican youth and their assimilation by socioeconomic segment in United States**

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## **Introduction**

The level of formal education of immigrants and their descendants in the United States is an indicator that, in agreement with diverse theories of assimilation, will allow to know if the immigrants and their descendants are assimilating to the receiving society; pointed out that at greater educative level, greater socioeconomic assimilation for them. The perspective that we are going to prove in this work is the one of the segmented assimilation, because it takes into account not only to the education like indicator, also argues that the assimilation will be different according to the socioeconomic segment from the society in which are the immigrants. That perspective considers that who belong to a segment of high income will have greater opportunities for socioeconomic assimilation, this because these people are located in contexts that allow them to accede to better educative services and they develop in safer districts, besides they count with services of formal and informal organizations (institutions of credit, insuring, etc.) that provide them supports and assure better opportunities of life. On the other hand, those that are in the segment of low income will have access to schools of smaller educative quality and they will be more restricted to services that the diverse organizations grant (Zhou, 1997).

Also, there are some investigations who indicate that Mexican youth present the lowest educative results in comparison with other groups of immigrants, for that reason different studies have mentioned that is an indicator that Mexicans are not socioeconomic assimilated by means of the education in the United States (Portes, 2000).

In this paper our aim is to analyze the segmented assimilation of Mexican youth in the United States, through the educative level. The hypothesis that will guide our analysis proposes that young people of Mexican origin in the United States will present differences in their socioeconomic assimilation in different generations (1<sup>st</sup>, 1.5, 2<sup>nd</sup> and 3<sup>rd</sup>) and segments (high and low income). In agreement with the theories of assimilation we expect that the high generations of immigrants have greater socioeconomic assimilation; it means that the 2<sup>nd</sup> and 3<sup>rd</sup> generations are those who assimilate more in both segments in contrast with the 1<sup>st</sup> and 1.5 generations, is to say that they will have similar educative attainments to natives<sup>1</sup> of both segments of income. Also, we hoped that the assimilation will be different between segments, appearing a greater assimilation of Mexicans who belong to the segment of high income in contrast to those of low income.

This work is organized in the next sections: in the first place, we are going to present a general panorama of the education of the Mexicans in the United States. Later we elaborate a description about the source of data and the population of interest. Immediately, we will analyze the educative level of Mexican youth and natives, pointed out their differences between both. After that we emphasize on the educative attainment of Mexican youth in contrast with the natives through the dissimilarity index, this index we will allow to determine the generations and segment of Mexicans who are obtaining similar educative attainments like the natives, distinguishing by segment of income. Once made the previous thing, we will fit diverse binomials logistic models that allow to look the influence of sex and generation on the educative attainments of Mexican and native youth, through these models we will emphasize the weight of each factor on education of young people and therefore in their socioeconomic assimilation in the United States.

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<sup>1</sup> We consider like natives to people who were born in United States and those white non Hispanic.

## Investigations about education of Mexicans in the United States

Diverse studies have indicated that within the group of Hispanics, the Mexicans are left behind in educative terms (Portes, 2000; Schmid, 2001). For example, in 1996, it was observed that only the 46.9% of Mexicans of 25 years of age or more had concluded studies of *high school*, compared with 60.4 % of Puerto Ricans, 63.8 % of Cubans, 61.3% of Center and South Americans and 66.4% of other Hispanics. On the other hand, the American population registered greater educative levels because 82.5 % of them had concluded studies of *high school* (Levine, 2001).

In relation to the studies after *high school* in 1996, only the 5.3% of Mexican with 25 years or more had studies of college, university, master or doctorate, again showing smaller educative levels in relation to other groups of Hispanics like: Puerto Ricans (10.8 %), Cubans (19.2 %), Center and South Americans (12.6 %) and other Hispanics (12.6 %). Also, 23.7 % of the American population had studied college, university or more (Levine, 2001).

The mentioned behavior has stayed in recent years, for example in the 2003, only the 26.1% of Mexicans of 15 years of age or more, had concluded *high school*, compared with 31.9% of Puerto Ricans, 30.8 % of Cubans, 24.2 % of Center and South Americans and 30.2 % of other Hispanics. It is possible to emphasize that in this case, the native population (Americans) presented a percentage in *high school* completed (30.1 %) very similar to Puerto Ricans and to other Hispanics (table 1).

About the studies after *high school*, Mexicans continue presenting the lowest educative attainments (22.6 %) compared with Puerto Ricans (30.8 %), Cubans (37.6 %), Center and South Americans (34.6 %), other Hispanics (42.6 %) and natives (51.4 %) (table 1).

Table 1

Percentage distribution of Hispanics and Americans by level of education, United States, 2003.

Level of education	Hispanics					Americans
	Mexicans	Puerto Ricans	Cubans	Center and South Americans	Other Hispanics	
Less of <i>high school</i>	51.3	37.3	31.6	41.2	27.2	18.5
<i>High School</i> completed	26.1	31.9	30.8	24.2	30.1	30.1
More of <i>high school</i>	22.6	30.8	37.6	34.6	42.6	51.4
Total	100.0 (13440)	100.0 (2312)	100.0 (892)	100.0 (3855)	100.0 (1337)	100.0 (139434)

Note: The numbers in parenthesis are the amount which the percentages were calculated.

Source: Current Population Survey 2003.

The previous things agree with studies that indicate that Hispanics continue having the worse educative achievements in comparison with Americans. Also, Mexican youth, within the group of Hispanics, continue presenting the smaller educative attainments (Tinley, 2006).

On the other hand, it is important to mention that exist an increasing correlation among levels of income and levels of schooling. For example, the percentage of people who did not finish *high school* and obtained a low annual income was of 21.3 % in 1979 and 36.1% in 1990. In addition, between 1979 and 1989, who had finished *high school* showed the greater percentage deterioration (-16.1 %) in their real income and only those that had university titles showed an increase. It is possible to mention, that the numbers indicate that from the Sixties, the difference between the level of income of people with university titles and without them tends to grow (Levine, 2001). In relation to the difference of income among men and women according to their educative level it has been observed that (table 2), in 1996, women had similar percentage of annual income to men, this happen in the educative level of less of *high school*. However, women graduated from *high school* are below men, only by a percentage point in the average of annual income. That situation is different when some years of superior education are attended, because the percentage difference in favor of women is greater

when they obtain a title. Finally, to have a level of postgraduate change the behavior, being greater the average of income for men in comparison with women (table 2).

**Table 2**  
**Annual average income by level of education, expressed as percentage from general average, by sex, United States, 1996.**

	General average	Less of high school	<i>High School</i> completed	Superior education	Title of university	Title of posgrade
Men	100	51	80	91	135	214
Women	100	51	79	92	140	207

Source: U.S. Department of Commerce, Bureau of the Census, *Educational Attainment in the United States*, march 1997, p.5.

In agreement with the previous panorama, we can say that the low educative achievements of Mexicans are a first indicator of which something is happening to obtain their assimilation in the United States. Nevertheless, those results are very general and they do not allow us to even distinguish among segments of income and between the same population of Mexican origin (generations and sex). For this last reason we consider convenient to do our analysis taking into account such distinctions and supporting us in the perspective of segmented assimilation. This approach takes to the education like an indicator to observe the socioeconomic assimilation of immigrants in the new society. In order to carry out the previous thing it is necessary to make some methodological landmarks that allow us to reach the raised objective.

### **Source of data and population of interest**

It has been indicated that educative and labor opportunities of immigrants and their descendants will be different among them, it means there will be differences between population of Mexican origin, because youngest will have greater opportunities to integrate itself to the new society (Pizarro, 2000). This way, using the *Current Population Survey 2003* (CPS), we selected and characterized to Mexican and native youth in the United States. This survey is continuous and includes near 50.000 household and is directed by the *Bureau of the Census*, the sample is probabilistic as well with representative at national and state level.

The CPS is the primary source of information on characteristics of labor force of American population. The respondents are interviewed to obtain data about the employment of each greater member of 15 years of age in the household. The obtained estimations from the CPS include the employment, unemployment, income and other indicators. These variables are available for a variety of demographic characteristics including age, sex, birthplace, marital race, status and educative achievements. This survey allows us to group to generations of Mexican youth and natives, in addition of which we can classify both groups of young people in different income segments.

Once located to young people, we will select those who could have concluded their studies (college or university). It means those that have between 20 and 24 years of age, this group represented in 2003 12.4 % of total population of Mexican origin. In relation with Americans, we are going to select like natives or Americans only to white non Hispanic<sup>2</sup>.

As we have mentioned the assimilation can vary between age groups, but this could show differences between generations, for example Neidert and Farley (1985) find that the educative and occupational differences between different immigrants groups present minimum variations among 2<sup>nd</sup> and 3<sup>rd</sup> or more generations, whereas comparing 1<sup>st</sup> and other generations the differences are greater. In this work this distinction will be taken into account, the 1<sup>a</sup> generation will be composed by who migrated to the United States after 11 years of age; generation 1.5 will be those that migrated to that country before 11 years of age. The establishment of these generations is because the time of exposition in the new society is different for 1<sup>st</sup> and 1.5 generations, and that could be to have some influence in their education and therefore in their socioeconomic assimilation. On the other hand, 2<sup>nd</sup> generation will be formed by who were born in the United States and at least one of their parents were born in Mexico; and in 3<sup>a</sup> generation will be grouped those that were born in the American Union and their parents also were born in the United States, but they are considered themselves of Mexican origin.

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<sup>2</sup>We will take to white non Hispanic because this group is the one that traditionally is used like reference group. In addition, this group has better levels in diverse socioeconomic indicators, including education.

Besides, we are interested in to prove the theory of segmented assimilation, reason why we divided to Mexican youth in two income segments: those that belong to families with income by above of poverty line<sup>3</sup> (high segment) and those that are located in families with income below this threshold (low segment), in the same way, we will distinguish these groups for native youth. That means, who are in homes that are below that poverty line will be the segment of low income; whereas the young people who are in homes over the line of poverty belong to the segment of high income.

However, the division of segments was not an easy question because; in first instance we considered to those below the line of poverty and over this. Nevertheless, with this distinction attracted to poorest between the poor and we had a reduced number of cases (less of 10% of the total population). So we decided to choose a greater rank, taking into account the occupation from household heads, doing the cross among occupation and level of poverty, it was possible observed that at level of 200% by above of the line of poverty, we had certain differences in agreement with the occupation, aspect that did not appear with other levels of poverty. In addition, we could to observe clear differences between the level of poverty of natives and population of Mexican origin in different occupations<sup>4</sup>.

On the other hand, it is important to emphasize that educative level of *high school*<sup>5</sup> is important for young people because it is the last stage of obligatory education in the United States, this can implied to continue or not studying, and thus to obtain a better job in that country<sup>6</sup>. We will differentiate two educative stages that can mark a difference in the type of occupation to which they acceded: first, to have attended until some year

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<sup>3</sup>The reason of choosing poverty line like point of distinction for segments is because this indicates the annual income that household must have to satisfy its basic necessities (in education, housing, health and feeding) according to the number of members of the family. At the same time, line of poverty identifies the number of members in the household and income that receives each one of them, once located this, is added to the familiar total income, having this sum, is compared with the income that would correspond to household according to the number of members, all this according to the *U.S Census Bureau* in 2003.

<sup>4</sup> If you want to observe the table with occupation and level of poverty, you can see the appendix at the end.

<sup>5</sup> Those studies correspond in Mexico to the third year of secondary education and three years of studies of preparatory.

<sup>6</sup> In the American society meritocracy works generally, it means, the type of occupation or job to which people acceded, depends generally on the educative level (Levine, 2001).

of high *school* (without graduating); second, includes to be graduated from high *school and/or* to have later studies (technical, college, university, postgraduate). However, considering the previous thing, it is necessary to pointed out how this for immigrants and their descendants in terms of segmented assimilation is translated. A form to come near to education of immigrants and their descendants is taking into account the important educative stages for natives (some year of *high school* or less, and *high school* completed or more), distinguishing by segments (low segment and high segment).

Once located our population of interest it will be come to make a descriptive analysis, of the educative attainments, obtained by different generations of Mexican youth and natives. Later we will contrast educative attainments of different young people through dissimilarity index, which will allow us to have a first indicator of the segmented assimilation. Once made that we will present a binomial logistic model. The specifications of these two last methods are explained in later sections.

### **Level of studies of Mexican youth and natives**

Diverse authors (Bearings, 2000; Levine, 2001; Schmid, 2001; Tinley, 2006) have indicated that young people of Mexican origin, in comparison with other groups of immigrants, have the lowest performance in school. In terms of level of studies that they have, we found in 2003 that 1<sup>st</sup> generation of Mexican youth has the smaller percentage of young people with *high school* or more, the reason behind this can be due to that in this generation many of young people migrated towards the United States with the purpose of working; in addition, we do not have to forget that the level of studies that they have it could have been obtained in Mexico and not in America. About generation 1.5, we observed a similar percentage distribution in both educative levels (being greater percentage in studies of *high school* completed or more), this result can be understood because, these young people, although were born in Mexico, they migrated to earlier age and they could have had the opportunity to enrollment at school and thus to continue their studies (table 3).



The 2<sup>nd</sup> and 3<sup>rd</sup> generations, present similar educative attainments, a possible explanation to this behavior can be that these generations were born in the United States, so they had the opportunity to enter to educative system in that country from child, which could have allowed a greater continuity in the school for them. These generations of young people show a great difference in comparison with 1<sup>st</sup> and 1.5 generations, being these last ones more leaving behind. In addition, it is important to emphasize that 3<sup>rd</sup> generation has a percentage greater than the others generations in the level of *high school* completed or more (table 3).

However, comparing the educative levels of different generations from Mexicans youth with natives, we can observed that 2<sup>nd</sup> and 3<sup>rd</sup> generations have similar educational attainments to natives, but the last ones have a greater proportion of young people in the last educative level. It means, although the difference is not very great, natives have greater educative attainments than Mexicans. A question that is necessary to emphasize is that although young people of 2<sup>nd</sup> and 3<sup>rd</sup> generations were born in the United States they do not show the same educative levels that natives, it could be an indicator about Mexicans are not under the same conditions that natives, for to obtain better educative results (table 3).

**Table 3**  
**Percentage distribution of the Mexican youth generations and Natives by level of education, United States, 2003.**

Level of education	Mexicans				Natives
	1st generation	1.5 generation	2nd generation	3rd generation	
Some year of <i>high school</i> or less	61.0	40.6	22.8	19.6	8.8
<i>High school</i> completed or more	39.0	59.4	77.2	80.4	91.2
Total	100.0	100.0	100.0	100.0	100.0
	(564)	(180)	(429)	(499)	(7266)

Note: The numbers in parenthesis are the amount which the percentages were calculated.

Source: Current Population Survey 2003.

It is possible to say that 1<sup>st</sup> generation presents less educative attainments in comparison with natives and with the rest of Mexican generations. Besides, 2<sup>nd</sup> and 3<sup>rd</sup> generations show greater educative attainments in contrast with 1<sup>st</sup> and 1.5 generations of Mexicans and similar tendency to natives. It shows that to born in the United States is

an element that marks a difference in the educative attainments of Mexicans who were born in that country, in contrast to whom were born in Mexico.

At moment, we have observed that appears differences between generations of Mexicans, nevertheless a form to enrich this analysis it is taking into account the distinction among men and women, because we know that exist differences constructed socially that could have some influence in educative attainments of these. For example, recent studies suggest that women in the United States are obtaining better results than men, in many indicators of educational attainments and that the great gap in these indicators that once existed between men and women, in many things have been eliminated (Diprete and Buchmann, 2006).

For year 2003, it is possible to be observed that in 1<sup>st</sup> generation of Mexicans, women present greater educative attainments in relation to men, for the level of *high school* completed or more; for generations 1.5 and 2<sup>nd</sup>, is observed a similar behavior. On the other hand, men of 3<sup>rd</sup> generation have a greater percentage in *high school* completed or more, in comparison to women. Natives show similar percentages for women and men in the level of *high school* completed or more, although there is a small difference in favor of the first ones (table 4).

**Table 4**  
**Percentage distribution of the Mexican youth generations and Natives by level of education and sex, United States, 2003.**

Level of education	Mexicans				Natives
	1st generation	1.5 generation	2nd generation	3rd generation	
<b>MEN</b>					
Some year of <i>high school</i> or less	63.4	42.9	28.2	15.6	9.0
<i>High school</i> completed or more	36.6	57.1	71.8	84.4	91.0
Total	100.0	100.0	100.0	100.0	100.0
	(325)	(98)	(195)	(231)	(3514)
<b>WOMAN</b>					
Some year of <i>high school</i> or less	57.7	37.8	18.4	23.1	8.6
<i>High school</i> completed or more	42.3	62.2	81.6	76.9	91.4
Total	100.0	100.0	100.0	100.0	100.0
	(239)	(82)	(234)	(268)	(3752)

Note: The numbers in parenthesis are the amount which the percentages were calculated.

Source: Current Population Survey 2003.

Therefore, we can say that, like in the general case, the differences between Mexican generations of men and women with respect to natives are present; being 1<sup>st</sup> and 1.5 generations the most left behind, while 2<sup>nd</sup> and 3<sup>rd</sup> are the most advanced in educational terms.

We have seen the differences in educative levels of Mexican youth with respect to natives, by generation and by sex. In general we can say that Mexicans continue showing smaller levels of studies in comparison with natives. Now we are going to see what happen with the percentage distribution in educative levels of young people when we distinguish by segments. In terms of segment of income, we have that 1<sup>st</sup> generation from both segments shows a great percentage in the level of *high school* or less, although the greater percentage is in the segment of low income. For generation 1.5, the greater percentage appear in the level of *high school* completed or more, in both segments of income; although it is possible to indicate that in low segment, an important percentage of this generation are located in some year of *high school* or less. On the other hand, 2<sup>nd</sup> and 3<sup>rd</sup> generations of both segments, essentially are concentrated in the level of *high school* or more, nevertheless these percentage are smaller for low segment. It is important to indicate that, still distinguishing by segments, the natives continue having the best educative results than generations of Mexicans, mainly in high segment (table 5).

**Table 5**  
**Percentage distribution of the Mexican youth generations and Natives by level of education and income segment, United States, 2003.**

Income segment/ Level of education	Mexicans				Natives
	1st generation	1.5 generation	2nd generation	3rd generation	
<b>Low segment</b>					
Some year of <i>high school</i> or less	62.2	42.0	27.6	25.4	12.9
<i>High school</i> completed or more	37.8	58.0	72.4	74.6	87.1
Total	100.0	100.0	100.0	100.0	100.0
	(482)	(150)	(312)	(335)	(3655)
<b>High segment</b>					
Some year of <i>high school</i> or less	53.7	33.3	10.3	7.9	4.6
<i>High school</i> completed or more	46.3	66.7	89.7	92.1	95.4
Total	100.0	100.0	100.0	100.0	100.0
	(82)	(30)	(117)	(164)	(3611)

Note: The numbers in parenthesis are the amount which the percentages were calculated.

Source: Current Population Survey 2003.

At moment we have seen that 1<sup>st</sup> and 1.5 generations of Mexicans are showing less educative attainments in relation to 2<sup>nd</sup> and 3<sup>rd</sup> generations and with respect to natives. Also we showed that although these last generations come near more to natives, in educative terms, continue being smaller its percentage. Besides, Mexican women of 1<sup>st</sup> and 1.5 generations show greater educative attainments in contrast to men; that behavior change with 3<sup>rd</sup> generation. Distinguishing by segment, we observed that those differences persist because Mexicans from low segment show minors educative attainments in comparison with those from high segment.

This way we can say that, generations of Mexicans present differences when we distinguish by segment, being the Mexicans from low segment who show the smaller educative attainments in relation to those from high segment. The previous question approximates us to the idea, indicated by the theory of segmented assimilation, which pointed out that who belong to the segment of low income will have less possibilities of socioeconomic assimilation to the new society. Also it is possible to indicate that in the different income segments, the natives from high segment have greater educative levels in contrast with those from low segment, and their levels of schooling continue being superior to the generations of Mexicans.

Although we have seen a general and descriptive panorama of the educative level of Mexican youth and natives, still we do not know to what extent happens the assimilation for different generations and segments; reason why in the following section we will look for to determine, statistically, a measurement that approximates us to it.

### **An approach to assimilation through the dissimilarity index**

As we mentioned at the beginning of this paper, our objective is to analyze the segmented assimilation of Mexican youth in United States, through the educative level. In the previous section we observed that differences between generations and segments of Mexican origin with natives exist. Taking into account that, we would hope that the smaller assimilation appears for 1<sup>st</sup> and 1.5 generations from low segment; and

we hope for 2<sup>nd</sup> and 3<sup>rd</sup> generations from high segment that they present a greater assimilation. In order to approximate us to this idea we looked for an indicator that allowed us to have a measurement of socioeconomic assimilation, this indicator is the dissimilarity index (DI), because, among other things, with this index it is possible to contemplate two populations at the same time (Anker, 1998). In our case, we are going to compare natives with each one of generations of Mexicans.

Although originally the dissimilarity index (DI) was used to measure the occupational segregation by sex, also has been used in other types of analysis of inequalities, for example in schooling and housing. When this index takes the value from zero, it implies that the compared populations are equal, is to say there is not dissimilarity. Whereas, when the index takes the value from one, the compared populations are totally different, that is to say, there is complete dissimilarity.

This index will be used like a measurement that approximates us to socioeconomic assimilation of Mexicans in United States. Specifically we will say that there is a greater assimilation if DI is near to zero (smaller dissimilarity), because Mexican youth would be concentrating themselves in a similar way to natives in different educative levels; as well, when DI is near to one (greater dissimilarity) we will say that Mexicans are not assimilating. In operative terms we will use the following formula:

$$DI = \frac{1}{2} \sum_i \left| \frac{G_i}{G} - \frac{N_i}{N} \right|$$

where,

$G_i$  = number of Mexicans in each level of studies in each generation

$G$  = total of Mexicans in each generation

$N_i$  = number of natives in each level of studies

$N$  = total of natives

With this index we have that Mexicans from 1<sup>st</sup> generation of both segments, present equal DI, indicating a minor assimilation with respect to natives. The generation 1.5,

shows a greater assimilation than 1<sup>st</sup> generation, in both income segments. On the other hand, 2<sup>nd</sup> generation from high segment, in comparison with low segment, is the one that is assimilated in greater measurement; it is the same for 3<sup>a</sup> generation. From these results, it is possible to say that 1<sup>st</sup> and 1.5 generations of both segments, are less assimilated; while 3<sup>rd</sup> generation from high segment is the one that presents the greater assimilation. As well, 2<sup>nd</sup> and 3<sup>rd</sup> generations from low segment show have a smaller assimilation in relation to those from high segment (table 6).

**Table 6**  
**Dissimilarity Index for Mexican youth in comparison with Natives, by generation and income segment, United States, 2003.**

Income Segment	Mexicans			
	1st generation	1.5 generation	2nd generation	3rd generation
Low segment	0.49	0.29	0.15	0.12
High segment	0.49	0.29	0.06	0.03

Source: Current Population Survey 2003.

In synthesis and in agreement with theory of assimilation segmented, which it raises that who belong to the segment of high income will have greater opportunities of socioeconomic assimilation in relation with those that are in the low segment, we found that only Mexicans from 2<sup>nd</sup> and 3<sup>rd</sup> generations are showing this behavior. Also, we observed that 1<sup>st</sup> and 1.5 generations are less assimilated in both segments.

In general, it is possible to say that the hypothesis of segmented assimilation appears when it is analyzed with the dissimilarity index. With this index the differences between populations were contemplated, in this case between the different educative levels from Mexicans in relation to natives, immediately we are going to incorporate another type of analysis that allows determining the influence of sex and generation on educative level.

## The segmented assimilation of Mexican youth through a binomial logistic model

As we observed in the previous section the assimilation of Mexicans presents differences between segments and mainly among generations. However, it is important to determine if belonging to a certain generation it influences so that obtains certain educative level, or if sex is an element that takes part in schooling. One of the tools that will allow to carry out us this analysis is the binomial logistic regression, through this type of models is possible to incorporate two categories to the dependent variable, which is to us from utility because it interests to us to analyze two different educative levels in our dependent variable. As well, with this type of regression the increase or decrement in predicted probability is obtained to have a characteristic or to experience an event according to the independent variables that are included (Pampel, 2000).

### *Binomial logistic regression*

Given to a quantitative or qualitative independent dichotomizing dependent variable and a set of one or more variable, the binomial logistic regression consists in to obtain a linear function of independent variables that allows to classify both to individuals in one of two subpopulations or groups established by values of the dependent variable.

From  $(x_{i1}, \dots, x_{ip})$ ,  $i = 1 \dots, n$ , sample of  $n$  observations of independent variables  $X_1, \dots, X_p$ , in both groups of individuals established by both values of dependent variable  $Y$ , with that we obtain a linear combination of independent variables that allows to consider the probabilities that an individual belongs to each one of the two subpopulations or groups. The probability that an individual belongs to the second subpopulation,  $p$ , is given by:

$$p = \frac{e^z}{1 + e^z} \text{ or, equivalent, } p = \frac{1}{1 + e^{-z}}$$

Being  $Z$  the linear combination:

$$Z = \beta_1 X_1 + \dots + \beta_p X_p + \beta_0$$

Where  $\beta_0, \beta_1, \dots, \beta_p$  are unknown parameters to consider. In individual, the probability that  $i$ -ésimo individual of sample belongs to the second subpopulation will be:

$$p_i = \frac{1}{1 + e^{-(\beta_1 x_{i1} + \dots + \beta_p x_{ip} + \beta_0)}}$$

If the probability is superior or equal to 0.5, the individual will be classified in the second subpopulation; in opposite case, it will be classified in the first one.

#### *Source of data and used variables*

In order to make this analysis we continued considering young people, of Mexican origin and natives, who have between 20 and 24 years of age, because they are those that already could have finished their life in school. The source of data will continue being CPS 2003, because this is representative at national level, and it allows us to classify to our population by sex, segments of income and generations, variables of extreme importance for our analysis. It is important to mention that by methodological questions and for our interest in observing the differences between income segments, we decided to fit two binomials logistic models. First of them it will be for low segment and the second model for high segment. In operative terms, the used variables were classified as follow<sup>7</sup>:

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<sup>7</sup>In all cases we consider to last category like the one of reference.



As dependent variable we have the *educative level* of young people (Mexicans and natives), which will be divided in the following categories:

0 = Some year of *high school* or less

1 = *High school* completed or more

The independent variables will be:

#### Sex

0 = Man

1 = Woman

#### Generation (*GENMODELO*)

0 = 1<sup>st</sup> generation

1 = 1.5 generation

2 = 2<sup>nd</sup> generation

3 = 3<sup>rd</sup> generation

4 = Natives

#### *Results of binomials logistic models*<sup>8</sup>

As we mentioned previously, we adjusted two models for each segment<sup>9</sup> of income. In the low segment we found that, according to the binomial logistic regression, men have less probability of having *high school* completed or more, in contrast to women, nevertheless this percentage is not statistically significant. This is similar in the high segment in where men have 41.2 % smaller probabilities of have *high school* completed or more, being in this case statistically significant (table 7).

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<sup>8</sup> The results of binomials regressions can be consulted in the appendix.

<sup>9</sup> It is important to indicate that also models with interactions between the variables were made generation and sex, but these were not significant in statistical terms, reason for which they were not included in the analysis.

**Table 7**  
**Results of logistic regression models**

<b>Dependent variable:</b>								
0 = Some year of <i>high school</i> or less								
1 = <i>High school</i> completed or more								
<b>Independent variable:</b>	<b>LOW SEGMENT</b>				<b>HIGH SEGMENT</b>			
	<b>B</b>	<b>EXP (B)</b>	<b>Sig.</b>	<b>%</b>	<b>B</b>	<b>EXP (B)</b>	<b>Sig.</b>	<b>%</b>
<b>Sex</b>								
Men	-0.059	0.943	0.442	-5.7	-0.531	0.588	0.000	-41.2
Woman	0.000	1.000			0.000	1.000		
<b>Generation</b>								
1st generation	-2.402	0.091	0.000	-90.9	-3.142	0.043	0.000	-95.7
1.5 generation	-1.581	0.206	0.000	-79.4	-2.279	0.102	0.000	-89.8
2nd generation	-0.944	0.389	0.000	-61.1	-0.850	0.427	0.007	-57.3
3rd generation	-0.831	0.436	0.000	-56.4	-0.567	0.567	0.059	-43.3
Natives	0.000	1.000	0.000		0.000	1.000	0.000	

Source: Current Population Survey 2003.

On the other hand in both segments of income, the odds to have *high school* completed or more, are smaller for all generations of Mexicans in contrast to natives, in all the cases odds are statistically significant. That is to say, Mexicans have less probabilities of counting on a level of *high school* or more, in comparison with natives. It is important to mention that the probabilities rise when the generation are increasing, being greater probabilities for those from high segment in contrast with low segment, except for 1<sup>st</sup> and 1.5 generations. Also, the probabilities of obtaining *high school* complete or more are much smaller for 1<sup>st</sup> and 1.5 generations in relation to 2<sup>nd</sup> and 3<sup>rd</sup> generations in both segments of income.

From the previous results, it is possible to say that, in both segments of income, the generations that are assimilating more, by means of education, are 2<sup>nd</sup> and 3<sup>rd</sup>; whereas 1<sup>st</sup> generation is the one that less is looked like natives, it means is the one that less is being assimilated, in educative terms.

## Conclusions

In this work we analyzed segmented assimilation of Mexican youth by generations and segments in United States through the obtained educative level in that country or Mexico compared with native youth. Using like source of data CPS 2003, calculating percentage distributions and comparing the levels of education of Mexicans and natives, we found that last ones surpass to first in studies to *high school* complete or more. As well, comparing between generations, we found that 2<sup>nd</sup> and 3<sup>rd</sup> have a similar behavior among them, and those are looked more in educative attainments to natives; while 1<sup>st</sup> generation is left behind. These results confirm that the greater exposure of immigrants in American community entails to a greater assimilation in the same one. When we distinguished by sex, we found that women have greater educative attainments in 1<sup>st</sup>, 1.5 and 2<sup>nd</sup> generations, that men. This would be indicating us a greater socioeconomic assimilation, by means of the education, for women.

On the other hand, all Mexican youth are not in the same socioeconomic circumstances; that is to say, some families of Mexican origin can have the opportunity to be inserted in segments of middle-class, whereas others are in segments of low class, being the familiar annual income the factor of distinction between a segment and another one. So that, when we did the analysis by generations and segments for Mexican and native youth, we found that natives continue having better educative attainments. Whereas comparing by generations, 2<sup>nd</sup> and 3<sup>rd</sup> generations have the highest educative level, for both segments, in comparison with 1<sup>st</sup> and 1.5 generations.

From the previous results and following the idea of socioeconomic assimilation, that mentions that this assimilation consists of which the immigrants in United States manage to have similar opportunities that natives as much in education as in job, we can say that 2<sup>nd</sup> and 3<sup>rd</sup> generations of Mexicans, of both segments, are being assimilated in greater measurement.

Later, and to have a more approximate indicator of assimilation of Mexican youth from different generations and segments, we look for a measurement that will integrate in its calculation the population to compare and population of reference, this was the dissimilarity index. Using this index, and knowing that if this tends to zero, the involved populations tend to look like; and happening the opposite if the result tends to one, we found that persist the same behavior described in previous results. That is to say, 1<sup>st</sup> generation presents the greater behind educative in both segments, the explanation can be in the objective that have these young people when they migrate: to work. Although the dissimilarity index for generation 1.5 tends to zero, the differences in comparison with 2<sup>nd</sup> and 3<sup>rd</sup> generations are marked, being these last generations who have the indices nearest zero, therefore they are looked more in educative attainments like natives. From the previous results we can say that the generation from high segment that is socioeconomic assimilating in the United States is the 3<sup>rd</sup>.

Finally, we adjusted a binomial logistic model for each segment of income. The results of these models corroborated some of our previous results: in the high segment appears a direct relation between generation and the probabilities of having *high school* completed or more; that is to say, between more high it is the generation, greater probabilities must to count on this level of study. And in this same segment of income, women showed to have greater probabilities of having high *school* complete or more, in relation to men.

## APPENDIX

Poverty level of household head (35 to 65 years) by occupation, Mexican and Natives, United States, 2003.

	Level of poverty	OCCUPATION														TOTAL
		Executives, professionals		Semi-skilled services		Sales, administration and office		Low skilled services		Construction		Working and farmers		Not specified		
		%	n	%	n	%	n	%	n	%	n	%	n	%	n	
Natives	Below line of poverty	2.0	218	4.0	31	3.4	204	11.2	193	3.5	152	5.4	98	24.3	1038	1934
	49 % above PL	2.3	251	7.4	58	4.3	258	11.1	190	4.8	211	5.8	105	12.0	512	1585
	99 % above PL	3.2	340	7.8	61	6.2	366	9.6	165	7.1	308	6.5	118	9.0	386	1744
	149 % above PL	4.4	470	7.0	55	7.9	471	12.3	211	9.8	428	10.3	186	7.6	326	2147
	199 % above PL	5.9	633	11.0	86	8.8	523	9.1	157	9.9	433	9.8	177	6.7	284	2293
	200 % and more, above PL	82.3	8863	62.8	491	69.4	4129	46.7	804	64.9	2837	62.3	1130	40.4	1726	19980
	TOTAL	100.0	10775	100.0	782	100.0	5951	100.0	1720	100.0	4369	100.0	1814	100.0	4272	29683
Mexican origin	Below line of poverty	5.5	78	11.9	40	9.0	102	23.6	157	10.2	103	15.6	40	48.3	665	1185
	49 % above PL	3.9	56	12.5	42	7.5	85	14.1	94	9.6	97	9.7	25	15.4	212	611
	99 % above PL	4.4	62	11.0	37	10.7	121	13.2	88	9.3	94	7.4	19	8.9	122	543
	149 % above PL	7.4	106	10.1	34	11.3	127	12.5	83	13.1	132	11.7	30	4.7	64	576
	199 % above PL	7.6	108	10.4	35	11.3	128	7.4	49	11.9	120	9.7	25	5.3	73	538
	200 % and more, above PL	71.3	1016	44.1	148	50.1	566	29.3	195	45.7	460	45.9	118	17.5	241	2744
	TOTAL	100.0	1426	100.0	336	100.0	1129	100.0	666	100.0	1006	100.0	257	100.0	1377	6197

Note: We excluded to the persons who were in army because they were only 5.

Source: Current Population Survey (CPS) 2003.

## Results of binomial logistic regression for low segment

### Case Processing Summary

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	4934	100.0
	Missing Cases	0	.0
	Total	4934	100.0
Unselected Cases		0	.0
Total		4934	100.0

a. If weight is in effect, see classification table for the total number of cases.

### Dependent Variable Encoding

Original Value	Internal Value
algún ano de H.S. o menos	0
H.S. o mas	1

### Categorical Variables Codings

		Frequency	Parameter coding			
			(1)	(2)	(3)	(4)
generaciones con 11 años	1a gen	482	1.000	.000	.000	.000
	1.5 gen	150	.000	1.000	.000	.000
	2a gen	312	.000	.000	1.000	.000
	3a gen	335	.000	.000	.000	1.000
	nativos	3655	.000	.000	.000	.000
sexo del respondiente	hombre	2240	1.000			
	mujer	2694	.000			

## Block 0: Beginning Block

### Classification Table<sup>a,b</sup>

Observed			Predicted		
			dependiente		Percentage Correct
			algún ano de H.S. o menos	H.S. o mas	
Step 0	dependiente	algún ano de H.S. o menos	0	1006	.0
		H.S. o mas	0	3928	100.0
Overall Percentage					79.6

a. Constant is included in the model.

b. The cut value is .500

## Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	1.362	.035	1486.001	1	.000	3.905

## Variables not in the Equation

	Score	df	Sig.
Step 0 Variables			
sexo(1)	6.631	1	.010
generafinales	704.122	4	.000
generafinales(1)	576.425	1	.000
generafinales(2)	44.512	1	.000
generafinales(3)	10.563	1	.001
generafinales(4)	5.500	1	.019
Overall Statistics	704.627	5	.000

Block 1: Method = Enter

## Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 1 Step	588.855	5	.000
Block	588.855	5	.000
Model	588.855	5	.000

## Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	4401.886 <sup>a</sup>	.112	.177

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table<sup>a</sup>

		Predicted		
		dependiente		Percentage Correct
Observed		algún ano de H.S. o menos	H.S. o mas	
Step 1 dependiente	algún ano de H.S. o menos	300	706	29.8
	H.S. o mas	182	3746	95.4
Overall Percentage				82.0

a. The cut value is .500

## Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>						
sexo(1)	-.059	.077	.590	1	.442	.943
generafinales			557.150	4	.000	
generafinales(1)	-2.402	.106	509.027	1	.000	.091
generafinales(2)	-1.581	.173	83.834	1	.000	.206
generafinales(3)	-.944	.136	48.175	1	.000	.389
generafinales(4)	-.831	.135	37.936	1	.000	.436
Constant	1.935	.060	1027.574	1	.000	6.924

a. Variable(s) entered on step 1: sexo, generafinales.

## Results of binomial logistic regression for high segment

## Case Processing Summary

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	4004	100.0
	Missing Cases	0	.0
	Total	4004	100.0
Unselected Cases		0	.0
Total		4004	100.0

a. If weight is in effect, see classification table for the total number of cases.

## Dependent Variable Encoding

Original Value	Internal Value
algún ano de H.S. o menos	0
H.S. o mas	1

## Categorical Variables Codings

		Frequency	Parameter coding			
			(1)	(2)	(3)	(4)
generaciones con 11 años	1a gen	82	1.000	.000	.000	.000
	1.5 gen	30	.000	1.000	.000	.000
	2a gen	117	.000	.000	1.000	.000
	3a gen	164	.000	.000	.000	1.000
	nativos	3611	.000	.000	.000	.000
sexo del respondiente	hombre	2123	1.000			
	mujer	1881	.000			



## Block 0: Beginning Block

Classification Table<sup>a,b</sup>

Observed			Predicted		
			dependiente		Percentage Correct
			algún ano de H.S. o menos	H.S. o mas	
Step 0	dependiente	algún ano de H.S. o menos	0	246	.0
		H.S. o mas	0	3758	100.0
Overall Percentage					93.9

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	2.726	.066	1716.123	1	.000	15.276

Variables not in the Equation

Step	Variables	Score	df	Sig.
0	sexo(1)	18.441	1	.000
	generafinales	378.292	4	.000
	generafinales(1)	327.757	1	.000
	generafinales(2)	38.751	1	.000
	generafinales(3)	3.535	1	.060
	generafinales(4)	.943	1	.332
Overall Statistics		390.566	5	.000

## Block 1: Method = Enter

Omnibus Tests of Model Coefficients

Step	Chi-square	df	Sig.
Step 1 Step	190.579	5	.000
Block	190.579	5	.000
Model	190.579	5	.000

**Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	1658.528 <sup>a</sup>	.046	.126

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

**Classification Table<sup>a</sup>**

Observed	Predicted			
	dependiente		Percentage Correct	
	algún ano de H.S. o menos	H.S. o mas		
Step 1 dependiente	algún ano de H.S. o menos	30	216	12.2
	H.S. o mas	23	3735	99.4
Overall Percentage				94.0

a. The cut value is .500

**Variables in the Equation**

Step		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	sexo(1)	-.531	.145	13.429	1	.000	.588
	generafinales			201.394	4	.000	
	generafinales(1)	-3.142	.237	175.826	1	.000	.043
	generafinales(2)	-2.279	.398	32.787	1	.000	.102
	generafinales(3)	-.850	.316	7.244	1	.007	.427
	generafinales(4)	-.567	.300	3.566	1	.059	.567
	Constant	3.337	.122	744.253	1	.000	28.130

a. Variable(s) entered on step 1: sexo, generafinales.

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