

## RESIDENTIAL SEGREGATION OF SPANISH AMERICANS IN UNITED STATES URBANIZED AREAS

Douglas S. Massey

Office of Population Research, Princeton University, Princeton, New Jersey 08540

*Abstract*—Residential segregation among Spanish Americans, whites and blacks is measured in the 29 largest U.S. urbanized areas. Results show that Spanish Americans are much less segregated from whites than are blacks and are less concentrated within central cities. Spanish-white segregation also tends to be much lower in suburbs than in central cities, while black-white segregation is maintained at a high level in both areas. Segregation of Spanish Americans from whites is found to decline with generations spent in the United States. Finally, the relative proportion of Spanish who live in a central city and the relative number of Spanish who are foreign stock, are both highly related, across urbanized areas, to variations in the level of Spanish-white segregation.

### INTRODUCTION

The Spanish American population is a large and growing minority in the United States. In 1970, New York was the eleventh largest Spanish-speaking city in the world, with 1.6 million persons of Spanish language; Los Angeles was the fourteenth largest, with 1.3 million (U.S. Bureau of the Census, 1972a). As of 1977, the number of Hispanics in the United States was estimated to be over 11 million, comprising about 5 percent of the total population (U.S. Bureau of the Census, 1978). This figure would rank the United States fifth among nations with Spanish populations.

In spite of its large size and increasing prominence, the Spanish American population has not been widely studied with respect to residential segregation. Using 1960 census data, Taeuber and Taeuber (1964) computed segregation scores for Mexicans and Puerto Ricans in Chicago and in 1965 measured segregation for New York Puerto Ricans. Kantrowitz (1973) also examined Puerto Rican segregation in the New York metropolitan

area, and Grebler et al. (1970) have analyzed patterns of segregation among persons of Spanish surname in cities of the southwest. Using 1970 census data, Rosenberg and Lake (1976) have studied processes of residential succession and segregation among Puerto Ricans in New York, and Matre and Mindiola (1977) have measured Hispanic segregation in selected southwestern cities. No comprehensive study of Hispanic segregation has yet been undertaken using a national sample of urban areas.

The paucity of research on Hispanic segregation stands in contrast to the large literature on racial segregation. Studies have generally found segregation of blacks to be quite high (Taeuber and Taeuber, 1965; Farley and Taeuber, 1968; Sørensen et al., 1975; Van Valey et al., 1977), especially among the largest urban areas (with scores typically ranging from 70 to 90 on a scale of 0 to 100). Black populations tend to be highly centralized within inner cities (Taeuber and Taeuber, 1965), although there have been recent trends toward suburbanization (Farley, 1970). However, racial segregation re-

mains quite high in suburban areas (Farley, 1970, 1977). In general, high levels of racial segregation cannot be explained by social and economic differences between blacks and whites (Taeuber, 1968; Farley, 1977), or by the fact that blacks are recent "immigrants" to many American cities (Taeuber and Taeuber, 1964).

There is also a large literature on ethnic segregation, revealing patterns that generally contrast with those of blacks. Studies have found that the degree of segregation between ethnic groups can vary widely, depending on the group or city under consideration (Lieberson, 1963; Kantrowitz, 1973; Guest and Weed, 1976). Segregation scores have ranged from below 20 up to values in the 60s or 70s. This wide variation has been correlated with inter-ethnic differences in socioeconomic status (Duncan and Lieberson, 1959; Lieberson, 1961, 1963; Darroch and Marston, 1971; Guest and Weed, 1976). In general, a pattern of urban deconcentration has been observed over time, with succeeding generations becoming increasingly suburbanized and less segregated (Duncan and Lieberson, 1959; Ford, 1950; Lieberson, 1963; Kiang, 1968).

This paper undertakes an analysis of Spanish American segregation in an effort to determine how patterns observed for this group compare with those of other racial and ethnic minorities. Of particular interest is the comparison of patterns of Spanish American and black segregation. Both groups are large, highly visible urban minorities with histories of discrimination and socioeconomic exploitation; therefore, similar patterns of residential segregation might be expected. The underlying question asks whether patterns of Hispanic segregation resemble more those of blacks or other ethnic minorities. In providing an answer to this question, we will focus on four specific questions:

1. How segregated are Spanish Americans from whites and blacks<sup>1</sup> in U.S. urbanized areas, and how do these levels compare with levels of black-white segregation?

2. What effect does suburbanization have on the segregation of blacks and Spanish Americans? Are these groups more segregated in central cities or suburbs?

3. How does nativity affect Hispanic segregation? That is, are foreign stock Spanish Americans more, or less, segregated from whites and blacks than native stock Spanish?

4. To what extent can factors such as degree of suburbanization and nativity account for interurban variation in the degree of Hispanic segregation?

#### MEASURES

Residential segregation may be conceptualized in terms of several different dimensions (cf. Taeuber and Taeuber, 1965, pp. 195-197). This paper concerns itself with two of these dimensions. The first is overall unevenness in the distribution of minority and majority members among census tracts of a city. This dimension will be measured by the index of dissimilarity, which defines segregation in terms of departure from evenness. It varies from a minimum of zero (no segregation) to a maximum of 100 (total segregation), and has been interpreted as the percentage of minority members who would have to change their tract of residence to achieve an even distribution. The strengths and weaknesses of this measure are well known (cf. Duncan and Duncan, 1955a; Cortese et al., 1976; Taeuber and Taeuber, 1976; Winship, 1977; Massey, 1978), and while there remains some debate on the pros and cons of the measure, it is employed here to facilitate comparison with previous studies of ethnic and racial segregation.

A second dimension of segregation refers to the relative *location* of minority and majority populations within the urban environment (Taeuber and Taeuber, 1965). In the United States, residential segregation is not only a matter of overall unevenness in the distribution of minorities, it is also a matter of the predominant *location* of minorities within central cities

and of whites within suburbs. This dimension will be measured by computing, within each urban area, the percentage of minority population residing within the central city. This measure will be called the index of urban concentration.

#### SOURCE OF DATA

This paper is based on data drawn from the Fourth Count Summary Tapes, File A, of the 1970 Census of Population. These tapes present cross-tabulations of white, black, and Spanish American populations within census tracts of United States urban areas.

The data set consists of the 29 largest urbanized areas. SMSAs were not used because the concern here is with *urban* residential segregation. About 22 percent of the population outside central cities but within SMSAs was classified as rural in 1970 (U.S. Bureau of the Census, 1972b, Table 47). Use of urbanized areas eliminates this population from consideration. However, census tracts can at times straddle the boundary of an urbanized area. When this occurred, the tract was included as part of the urbanized area if the majority of its population lived inside the boundary. Within each urbanized area, tracts within central cities and suburbs were also identified following Census Bureau definitions.<sup>2</sup>

The set of 29 urbanized areas was chosen primarily for reasons of practicality, since the tedious task of assigning tracts to central city and suburban areas had already been done by Farley (1977), who generously made the information available for this study. However, the reader should be aware of certain problems associated with this data set. First, there is a clear regional bias. Nine of the urbanized areas are midwestern, seven northeastern, seven southwestern, two northwestern, and four southeastern. Thus older urban areas of the northeast and midwest are overrepresented, while new urban areas (typically in the southwest) are underrepresented. Second, because the data set consists of the 29 *largest* urbanized areas,

there is an obvious size bias. Recent studies of racial segregation suggest that segregation tends to be somewhat higher in the midwest (Van Valey et al., 1977). Moreover, Van Valey and Roof (1976) have shown that segregation is positively associated with city size. Thus this sample may overstate the level of Hispanic segregation compared to a broader sample of America urban areas.

#### DEFINITION OF POPULATIONS FOR STUDY

The Spanish American population is here defined as the Spanish language population (U.S. Bureau of the Census, 1970). Constructed from a 15 percent sample question, it consists of all persons reporting Spanish as the language spoken in the home at childhood, plus persons in families in which the head or wife reported Spanish as his or her mother tongue.

As Hernandez et al. (1973) have pointed out, conceptual definition of the Spanish American population is a thorny issue, and there are no trouble free measures. All 1970 census indicators have their shortcomings and liabilities. The Spanish language definition was chosen because it seemed to be the best of the possible alternatives. Spanish surname was ruled out because it is tabulated only in five southwestern states and is thus not available for most of the 29 cities in the sample. Hispanic birth or parentage was considered inappropriate because many persons who might otherwise be considered Spanish American are of native parentage. (For example, in Denver only 10 percent of the very large Spanish population are of foreign birth or parentage).

Finally, in spite of its conceptual appeal to some researchers (cf. Hernandez et al., 1973), the 5 percent self-identification question on Spanish origin was rejected because a 5 percent item was felt to be too unreliable for use at the tract level, particularly given indications of a high Spanish undercount (U.S. Commission on Civil Rights, 1974). Moreover, the category

Table 1.—Segregation Scores for the 29 Largest Urbanized Areas in the United States, 1970

Urbanized Area	Spanish-White			Spanish-Black			Black-White		
	UA	CC	SR	UA	CC	SR	UA	CC	SR
Atlanta	34.2	43.4	27.1	79.8	73.8	75.5	84.5	83.5	74.2
Baltimore	45.7	45.7	44.8	67.1	55.4	60.2	85.9	84.4	69.6
Boston	48.2	54.2	38.8	62.6	55.5	57.4	80.8	82.4	61.4
Buffalo	47.7	50.8	41.5	77.3	75.2	70.4	86.6	83.8	81.2
Chicago	60.1	58.9	34.6	86.1	87.3	77.7	91.9	90.7	86.9
Cincinnati	43.7	46.1	41.7	73.2	64.8	75.6	80.1	74.6	77.6
Cleveland	51.1	51.1	37.2	82.1	81.5	76.7	90.2	86.6	84.9
Dallas	44.0	46.5	23.3	82.6	82.5	82.2	92.8	93.1	84.8
Denver	50.9	55.1	35.8	79.0	77.3	58.8	87.6	87.2	64.5
Detroit	48.3	53.9	41.3	80.4	74.2	85.1	89.2	78.2	93.6
Houston	47.2	49.9	30.9	76.6	75.5	80.4	84.2	83.6	84.4
Indianapolis	35.7	36.3	21.0	73.8	73.4	86.3	81.5	80.9	87.1
Kansas City	44.4	44.0	31.7	81.3	79.3	79.8	88.4	84.5	78.3
Los Angeles	48.0	53.2	44.1	84.6	82.3	86.2	91.2	90.7	90.4
Miami	50.7	34.0	39.7	87.8	87.8	88.0	87.4	84.8	86.9
Milwaukee	52.3	51.9	43.3	81.4	79.4	77.8	89.5	87.4	75.0
Twin Cities	46.1	43.7	43.8	77.3	73.4	70.5	82.3	79.4	66.7
New Orleans	31.2	30.7	26.0	67.3	60.5	76.7	76.1	71.3	73.6
New York	64.6	62.8	44.1	58.3	55.9	69.6	80.5	80.4	74.7
Philadelphia	54.9	61.6	41.2	69.4	68.5	66.7	80.6	76.9	73.7
Pittsburgh	48.0	50.4	46.7	73.7	65.5	72.7	78.2	79.6	70.4
Portland	32.4	30.9	32.6	75.0	70.7	71.6	80.3	78.5	67.7
Providence	45.4	48.1	42.7	73.5	67.7	74.6	75.8	75.1	70.7
St. Louis	34.6	36.7	32.3	78.8	74.6	77.6	84.7	83.8	82.1
San Diego	37.3	40.8	32.4	68.5	60.6	64.2	78.4	79.7	70.8
San Francisco	37.0	42.9	32.7	72.2	64.1	76.7	78.8	69.2	80.6
San Jose	42.2	47.9	35.3	38.9	33.5	46.7	58.6	62.5	53.1
Seattle	30.7	34.5	27.7	72.2	66.3	54.4	80.6	78.6	52.6
Washington	31.1	35.9	28.2	76.2	58.8	69.9	83.8	72.1	69.1
Average	44.4	46.3	35.9	74.4	69.8	72.8	83.1	80.8	75.4
Average Difference Between CC and SR			10.4			-3.0			5.4

\* UA - Urbanized Areas

CC - Central City

SR - Suburban Ring

“South or Central American” was apparently misinterpreted by some respondents to refer to origin in the south or central United States, leading to overestimates in some regions (U.S. Bureau of the Census, 1973). In addition, it appears that a large number of persons considered Hispanic by other criteria did not identify themselves as such on this item (Fernandez, 1975).

Spanish language represents a useful and objective conceptual definition in its own right, providing a common element binding together a diverse group of peoples and traditions. It might be argued that Mexicans, Cubans, Puerto Ricans, and other Spanish-speaking groups do not constitute a legitimate single population. However, while the Spanish American population is admittedly an abstrac-

tion, it is a useful concept not too far removed from reality, delineating a large ethnic population united by a common language, religion, and often times similar cultural traditions, a population sharing a partially imposed and partially self-accepted identity within U.S. society.

A final methodological note concerns the Census Bureau's suppression (for reasons of confidentiality) of tract records pertaining to fewer than 15 individuals. Assuming these tracts to be zero would tend to overstate segregation by leaving out Spanish Americans who are distributed widely but in small numbers throughout census tracts in a city. To avoid this possibility, a tract population of eight persons (the midpoint between one and fifteen) was assumed for each suppressed record.<sup>3</sup>

## RESULTS

### *Segregation of Spanish Americans from Whites and Blacks*

To measure the extent of residential segregation of Spanish Americans and blacks, indices of dissimilarity were calculated for the 29 largest urbanized areas. The resulting segregation scores are presented in Table 1.

Considering scores for urbanized areas, the level of segregation of Spanish Americans from whites is obviously much less than that of blacks from whites. On average, Spanish-white segregation is some 39 points below black-white segregation. Spanish-white segregation scores range from low values of around 31 in Seattle, Washington, D.C., and New Orleans, to highs of 60 and 65 in Chicago and New York, respectively. On the other hand, the range of black-white scores is from about 59 in San Jose to 93 in Dallas. Ignoring San Jose, the highest Spanish-white score is lower than the lowest black-white score.

Within individual urbanized areas there is a good deal of consistency to this pattern of higher black segregation. Black-white segregation is greater than Spanish-white segregation in *every* case.

Table 2.—Average Concentration Indexes for White, Black, and Spanish Populations in 29 Urbanized Areas

	Average Concentration
Whites	41.6
Blacks	84.6
Spanish Americans	59.5
Native Stock	55.1
Foreign Stock	62.4

The minimum difference between scores was 20 points, ranging up to a maximum of 53 points, and the median difference was 39 points.

The level of segregation between blacks and Spanish is also quite high, in spite of their common status as disadvantaged minorities. On average, Spanish-black segregation was only 9 points below the level of black-white segregation but was 30 points *above* the level of Spanish-white segregation. This ordering was repeated in every urbanized area with the exception of New York and San Jose (which had unusually low levels of Spanish-black segregation) and Miami (which had an unusually high degree of Spanish-black segregation).

Indices of urban concentration were also calculated in each urbanized area and averaged to give the values presented in Table 2. Spanish concentration was an average of about 25 points below that of blacks. Within individual urbanized areas, black concentration was greater than that of Spanish in every case but two—Miami and New York—both unusual in having Spanish populations comprised very heavily of foreign stock Spanish (who tend to concentrate in central cities).

Thus, whether one considers degree of segregation from whites, or extent of concentration within central cities, the pattern of greater black segregation is repeated with remarkable consistency in each of the 29 urbanized areas.

### *Segregation in Central Cities and Suburbs*

Patterns of Spanish-white and black-white segregation may also be contrasted

Table 3.—Segregation Scores for Native and Foreign Stock Spanish Americans in 29 Urbanized Areas

Urbanized Areas	Native Spanish and		Foreign Spanish and		Native vs. Foreign
	Whites	Blacks	Whites	Blacks	
Atlanta	33.3	77.3	46.8	85.0	38.0
Baltimore	50.6	62.6	52.5	78.0	40.7
Boston	45.2	72.1	59.7	61.1	47.8
Buffalo	49.7	80.3	55.6	77.9	48.9
Chicago	48.3	81.9	67.4	88.4	38.7
Cincinnati	47.1	71.8	52.7	78.8	42.5
Cleveland	45.4	78.2	61.3	86.3	48.4
Dallas	39.3	81.7	50.8	83.9	24.0
Denver	48.2	80.1	52.1	77.0	23.5
Detroit	46.6	79.9	59.2	83.3	36.4
Houston	41.5	75.3	53.1	78.2	19.5
Indianapolis	38.8	72.1	48.5	86.9	45.2
Kansas City	43.3	80.2	56.2	85.1	34.7
Los Angeles	39.4	85.6	55.9	84.4	28.0
Miami	31.7	85.1	54.5	88.3	29.0
Milwaukee	51.5	82.2	62.4	82.0	36.4
Twin Cities	48.3	77.3	54.3	81.0	34.1
New Orleans	32.0	67.6	39.0	70.0	39.3
New York	47.7	78.2	68.8	57.4	52.2
Philadelphia	53.7	71.7	61.6	70.9	53.6
Pittsburgh	58.9	81.3	48.8	69.8	45.4
Portland	32.6	75.5	51.8	77.5	45.9
Providence	49.5	71.7	54.6	78.3	50.2
St. Louis	36.3	79.1	47.1	81.6	40.4
San Diego	27.8	70.3	48.9	67.9	30.2
San Francisco	31.1	72.7	48.6	72.6	31.5
San Jose	34.7	42.7	51.2	40.9	21.6
Seattle	32.9	72.5	42.8	77.8	41.0
Washington	31.9	72.7	39.3	81.2	37.1
Average	42.0	75.2	53.3	76.9	38.1

by comparing levels of segregation in central cities and suburbs. Referring to Table 1, note first that the ordering of average segregation scores is the same as that for urbanized areas as a whole: black-white segregation is highest followed by Spanish-black, with Spanish-white segregation the lowest.

The most interesting finding, however,

concerns the relative drop in black and Spanish segregation scores between central cities and suburbs. Although Spanish-white and black-white segregation scores are both higher in central cities than in suburbs, the central city-suburb differential is much larger for Spanish-white than black-white segregation. On average, black-white segregation scores were 5.4

points higher in central cities than in suburbs, compared to a difference of 10.4 points for Spanish-white segregation.

On a city-by-city basis, Spanish-white segregation was higher in central cities than suburbs in all but three cases: Miami, which is unusual due to a high concentration of first generation Cubans in the inner city; Minneapolis-St. Paul, where central city and suburban scores were almost equal; and Portland, whose central city was already among the least segregated. The median central city-suburb difference was 9.3 points. In contrast, black-white segregation was *higher* in the suburbs than in the central city in seven cases, and the median central city-suburb difference was only 4.2 points.

In general, then, the pattern is one of relatively much less segregation of Spanish Americans from whites in suburbs than central cities. For blacks, segregation is somewhat less in suburbs than central cities but still at a high level. Finally, between Spanish Americans and blacks themselves, segregation is quite high in both areas, showing no apparent decline in suburbs. Indeed, it tends to be slightly *higher* in suburban areas.

#### *Segregation of Native and Foreign Stock Spanish*

From tabulations available on the Fourth Count Tapes, we can divide the Spanish American population into native stock and foreign stock components. The foreign stock component was defined from the tapes as all persons of Spanish language who reported themselves or their parents to be born in a Spanish-speaking area outside the United States (including Puerto Rico). The native stock Spanish population was calculated as a residual by subtracting the foreign stock population from the total Spanish language population.

Scores measuring the degree of segregation of native and foreign stock Spanish Americans from blacks and whites in the 29 urbanized areas are presented in Table

3. Considering segregation from whites, this table reveals a clear generational effect. Spanish Americans of foreign birth or parentage (first and second generation Spanish) are distinctly more segregated from whites than are native stock Spanish (third or greater generation). Segregation from the white population clearly decreases with generations spent in the United States. On average, segregation of native stock Spanish is 11 points less than that of foreign stock Spanish. This native-foreign differential was repeated with remarkable consistency within individual urbanized areas. In only one city (Pittsburgh) was native Spanish segregation greater than that of foreign Spanish. The median difference was some 12 points overall.

Spanish-black segregation is another matter. There is no apparent generational effect influencing the level of Spanish-black segregation. Average segregation scores were virtually equal for native and foreign Spanish. Moreover, within individual urbanized areas, the pattern was very inconsistent. In 18 cities, native stock Spanish were more highly segregated from blacks than were foreign stock Spanish, while in 11 cities they were less segregated. In general, the conclusion is that generation has no effect on degree of Spanish-black segregation.

Finally, note a moderate degree of segregation between native and foreign Spanish themselves, with an average segregation score of around 38 between the two groups. Such a moderate level of segregation might result from a situation where most foreign Spanish tend to cluster in all-Spanish or largely Spanish areas (often in center cities), while native Spanish, although clustering to a certain degree in largely Spanish neighborhoods, are also dispersed throughout the white population in general.

This hypothesis is consistent with the pattern of urban concentration observed for native and foreign stock Spanish populations (referring back to Table 2). Over-

all, native Spanish tend to be less concentrated within central cities than foreign Spanish. Average concentration of foreign Spanish is about 7 points higher than that of native Spanish, a pattern reflected with fair consistency within each of the 29 urbanized areas. In 22 cities foreign concentration was larger than native concentration. In the remaining 7 cities, native and foreign concentration indices were virtually equal, with the sole exception of Boston where foreign Spanish were much less concentrated.

There is thus considerable evidence of a generational effect influencing the level of Spanish-white segregation in the largest urbanized areas of the United States. Indeed, the differences between native-white and foreign-white segregation scores reported above probably represent conservative assessments of the effect of nativity. Due to the fact that native stock Spanish contain some children living in households with foreign stock parents, native-white segregation scores are probably higher than they would be if the data referred only to adults or household heads. For the same reason, native-foreign segregation scores are no doubt lower. Thus using household or adult data, the effect of nativity on segregation would be even greater than reported here.

#### *Explaining Interurban Variation in Segregation*

We have shown above that native stock Spanish are less segregated from whites than are foreign stock Spanish. One might therefore hypothesize the level of Spanish-white segregation to be positively related, across urbanized areas, to the proportion of Spanish who are foreign stock. Similarly, because Spanish-white segregation is lower in suburbs than in central cities, we might also expect the degree of Spanish-white segregation in an *urbanized area* to be associated with the relative proportion of Spanish living in the central city. Relationships between these two variables and Spanish-white segregation

are summarized in Table 4. Because the level of Spanish concentration was found to be largely a function of the *overall* level of concentration in an urbanized area, Spanish concentration was expressed relative to overall concentration in each urbanized area.<sup>4</sup>

The results shown in Table 4 clearly support our expectations. Across urbanized areas, level of Spanish-white segregation is significantly related to both relative Spanish concentration and the proportion of foreign stock Spanish. Together, these two variables account for 70 percent of the interurban variation in segregation.

The same independent variables are of relatively little value in accounting for interurban differences in the extent of Spanish-black or black-white segregation. The correlation between relative Spanish concentration and Spanish-black segregation is only 0.03 and that between relative black concentration and black-white segregation is 0.26. Similarly, the proportion of foreign stock Spanish has a correlation of only 0.01 with Spanish-black segregation, a fact that makes sense given that native and foreign stock Spanish are *both* very highly segregated from blacks.

#### CONCLUSIONS

To answer the underlying question of this paper, it appears that patterns of Spanish American segregation resemble those of European ethnics more than they do those of blacks. While this may seem self-evident, one might have expected patterns of black and Spanish segregation to resemble one another, given that both are large, highly visible minorities with histories of discrimination and exploitation. However, there are many differences. First, the degree of Spanish segregation from whites is much less than that of blacks from whites, and it shows a more pronounced decline between central cities and suburbs. Spanish Americans are also much less concentrated within central cities than are blacks. Furthermore, whereas the degree of Spanish-white seg-



Table 4.—Relationship between Spanish-White Segregation and Relative Spanish Concentration, and Proportion of Spanish who are Foreign Stock

<u>Zero Order Relationships:</u>		
	<u>Relative Spanish Concentration</u>	<u>Proportion Spanish of Foreign Stock</u>
$r^2$	0.61	0.44
b	0.62	0.30
SE	0.10	0.06
a	31.37	30.48
<u>Multiple Regression:</u>		
b	0.48	0.16
B	0.60	0.36
SE	0.10	0.06
	$R^2 = 0.70$	a = 26.56

b = Unstandardized Regression Coefficient.

B = Standardized Regression Coefficient.

SE = Standard Error of b.

a = Constant.

All coefficients significant at the .05 level.

regation clearly declines with the number of generations spent in the United States, the analogous fact does not hold for blacks. Generations after their original migration to U.S. cities, blacks remain very highly segregated from whites. Finally, Spanish-white segregation scores generally display a wider variation between urban areas than those of blacks (roughly 30 to 65 compared to 70 to 90), a range similar to that observed among other ethnic groups.

The distinctiveness of processes of black and Hispanic segregation is underscored by the high degree of segregation observed between the two groups themselves, a pattern which holds in central cities, suburbs, and across generational groups. Indeed, the residential behavior of Spanish Americans toward blacks very closely parallels that of whites. Degree of Spanish-black segregation is highly re-

lated to the level of black-white segregation across urbanized areas, with a correlation coefficient of 0.87. Across central cities and suburbs, the figures are 0.77 and 0.90, respectively.

The results of this paper suggest two points with respect to the previous literature on segregation. First, based on a review of his own and others' findings, Kantrowitz (1973) concluded that ethnic segregation is not significantly diminished over time. However, the apparent decline in segregation among third and higher generation Spanish Americans suggests that ethnic segregation may not always be as persistent as Kantrowitz suggests. Although this discrepancy may reflect something unique about Spanish Americans, it may also relate to the generational groups considered in each case, since Kantrowitz examined segregation across only the first two generations. This may not be long

enough to observe the effects of assimilation.

In addition, the finding that black-white segregation is maintained at a high level regardless of central city or suburban location has clear implications with respect to processes of black suburbanization noted by Farley (1970). If we assume relative levels of central city and suburban segregation to remain more or less constant in the near future, then increasing suburbanization of blacks will have little effect on the level of black-white segregation. However, the same processes among Spanish populations would tend to further reduce the already lower levels of Spanish-white segregation.

Indeed, from the zero-order relationship estimated in Table 4, one could speculate that were the Spanish population to achieve a level of urban concentration as low as whites, average Spanish-white segregation in the 29 urbanized areas would fall from its current value of 44 to a level near 35. Moreover, from the multiple regression equation, one may further speculate that were the population additionally composed entirely of native stock Spanish, expected Spanish-white segregation would be somewhere in the neighborhood of 28.

There are several possible explanations for this remaining small degree of segregation. Among the more interesting are that it reflects the persistence of ethnic segregation emphasized by Kantrowitz (1973), and that it relates in some way to socioeconomic differences between Spanish Americans and whites (cf. Duncan and Duncan, 1955b; Uyeki, 1964; Farley, 1977; Simkus, 1978). Investigation of the effect of socioeconomic factors on patterns of Hispanic segregation is suggested as a particularly interesting possibility for research.

#### NOTES

<sup>1</sup> Throughout this paper, white and black populations have been defined net of Spanish Americans. Thus white and black persons of Spanish language were subtracted from the general white and black

populations listed on the Fourth Count Tapes. This fact accounts for the small discrepancies observed in the black-white segregation scores reported here when compared to those reported earlier by Van Valey et al. (1977).

<sup>2</sup> With the exception of Philadelphia, the central cities were the same as those defined by the Census Bureau. Because Camden, New Jersey exhibited characteristics usually associated with center city areas (older low-value housing, poverty, high crime, a history of "white flight" to outlying areas), it was coded as a central city in the Philadelphia urbanized area, rather than a suburb.

<sup>3</sup> A systematic evaluation revealed that the particular value assumed for suppressed tract populations had little effect on the segregation score obtained. 100 percent confidence intervals were constructed by assuming all suppressed tracts to contain either one or 15 persons. The range of scores obtained always varied in a narrow band within  $\pm 3$  points around the score obtained assuming a value of eight.

<sup>4</sup> Spanish concentration was measured relative to overall urban concentration by taking the difference between Spanish and total population concentration in each urbanized area. This adjustment was undertaken because the degree of Spanish concentration was found to depend largely on the overall level observed in the urbanized area as a whole, a fact which tended to obscure the relationship between Spanish concentration and segregation. By subtracting out the effect of overall concentration in each of the 29 urbanized areas, the relationship between segregation and Spanish concentration could be seen more clearly.

#### ACKNOWLEDGMENT

The author would like to thank Reynolds Farley, Jane Menken, Bryan Boulier, Julian Wolpert, and three anonymous reviewers for their helpful comments and advice during the preparation of this paper.

#### REFERENCES

- Cortese, C. F., R. F. Falk, and J. K. Cohen. 1976. Further Considerations on the Methodological Analysis of Segregation Indices. *American Sociological Review* 41:630-637.
- Darroch, A. G., and W. G. Marston. 1971. The Social Class Basis of Ethnic Residential Segregation: The Canadian Case. *American Journal of Sociology* 77:491-510.
- Duncan, O. D., and B. Duncan. 1955a. A Methodological Analysis of Segregation Indices. *American Sociological Review* 20:210-217.
- , and B. Duncan. 1955b. Residential Distribution and Occupational Stratification. *American Journal of Sociology* 60:493-505.
- , and S. Lieberman. 1959. Ethnic Segregation

- and Assimilation. *American Journal of Sociology* 64:364-374.
- Farley, R. 1970. The Changing Distribution of Negroes within Metropolitan Areas: The Emergence of Black Suburbs. *American Journal of Sociology* 75:512-529.
- . 1977. Residential Segregation in Urbanized Areas of the United States in 1970: An Analysis of Social Class and Racial Differences. *Demography* 14:497-518.
- , and K. E. Taeuber. 1968. Population Trends and Residential Segregation Since 1960. *Science* 159:953-956.
- Fernandez, E. W. 1975. Comparison of Persons of Spanish Surname and Persons of Spanish Origin in the United States. U.S. Bureau of the Census Technical Paper 38. Washington, D.C.: U.S. Government Printing Office.
- Ford, R. G. 1950. Population Succession in Chicago. *American Journal of Sociology* 56:151-160.
- Gebler, L., J. W. Moore, and R. C. Guzman. 1970. *The Mexican American People: The Nation's Second Largest Minority*. New York: Free Press.
- Guest, A. M., and J. A. Weed. 1976. Ethnic Residential Segregation: Patterns of Change. *American Journal of Sociology* 81:1088-1111.
- Hernandez, J., L. Estrada, and D. Alvarez. 1973. Census Data and the Problem of Conceptually Defining the Mexican American Population. *Social Science Quarterly* 53:671-687.
- Kantrowitz, N. 1973. *Ethnic and Racial Segregation in the New York Metropolis*. New York: Praeger.
- Kiang, Y. C. 1968. The Distribution of Ethnic Groups in Chicago, 1960. *American Journal of Sociology* 74:292-295.
- Liebersohn, S. 1961. The Impact of Residential Segregation on Ethnic Assimilation. *Social Forces* 30:52-57.
- . 1963. *Ethnic Patterns in American Cities*. New York: Free Press.
- Massey, D. S. 1978. On the Measurement of Segregation as a Random Variable. *American Sociological Review* 43:587-590.
- Matre, M., and T. Mindiola. 1977. Residential Segregation in the Urban Southwest: A Comparative Study, 1970. Paper presented at the 1977 meetings of the Population Association of America.
- Rosenberg, T. J., and R. W. Lake. 1976. Toward a Revised Model of Residential Segregation and Succession: Puerto Ricans in New York, 1960-1970. *American Journal of Sociology* 81:1142-1150.
- Simkus, A. A. 1978. Residential Segregation by Occupation and Race in Ten Urbanized Areas, 1950-1970. *American Sociological Review* 43:81-93.
- Sørensen, A., K. E. Taeuber, and L. J. Hollingsworth, Jr. 1975. Indexes of Racial Residential Segregation for 109 Cities in the United States: 1940-1970. *Sociological Focus* 8:125-142.
- Taeuber, K. E. 1968. The Effect of Income Redistribution on Racial Residential Desegregation. *Urban Affairs Quarterly* 4:5-15.
- , and A. F. Taeuber. 1964. The Negro as an Immigrant Group. *American Journal of Sociology* 69:374-382.
- , and A. F. Taeuber. 1965. *Negroes in Cities*. Chicago: Aldine.
- , and A. F. Taeuber. 1976. A Practitioner's Perspective on the Index of Dissimilarity. *American Sociological Review* 42:884-889.
- U.S. Bureau of the Census. 1970. *1970 Census Users' Guide, Part I*. Washington, D.C.: U.S. Government Printing Office.
- . 1972a. *Census of Population: 1970, PC(1)-C*. Washington, D.C.: U.S. Government Printing Office.
- . 1972b. *Census of Population: 1970, PC(1)-B1*. Washington, D.C.: U.S. Government Printing Office.
- . 1973. *Census of Population: 1970, PC(2)-1C. Addendum to Introduction, Persons of Spanish Origin*. Washington, D.C.: U.S. Government Printing Office.
- . 1978. *Current Population Reports, P-20, No. 329*. Washington, D.C.: U.S. Government Printing Office.
- U.S. Commission on Civil Rights. 1974. *Counting the Forgotten: The 1970 Census Count of Persons of Spanish Speaking Background in the United States; a Report*. Washington, D.C.: U.S. Government Printing Office.
- Uyeki, E. S. 1964. Residential Distribution and Stratification. *American Journal of Sociology* 69:491-498.
- Van Valey, T. L., and W. C. Roof. 1976. Measuring Residential Segregation in American Cities: Problems of Intercity Comparison. *Urban Affairs Quarterly* 11: 453-468.
- , W. C. Roof, and J. E. Wilcox. 1977. Trends in Residential Segregation: 1900-1970. *American Journal of Sociology* 82:826-844.
- Winship, C. 1977. A Reevaluation of Indexes of Segregation. *Social Forces* 55:1058-1066.