VIOLENT DEATHS: ETHNIC AND LIFE-CYCLE DIFFERENTIALS AMONG MEXICAN AMERICANS, MEXICAN IMMIGRANTS AND ANGLOS, 1970-1980

W.Parker Frisbie Rodolfo Cruz Piñeiro*

ABSTRACT

Recent studies have demonstrated a high degree of similarity In the mortality risk experienced by the Mexican-origin population as compared to non-Hispanic whites ("Anglos"). However. Mexican American and Mexican immigrant males have exhibited very high rates of death from homicide, motor vehicle accidents, and other violent causes. We provide a comparative analysis of violent death rates among the Mexican American and Anglo populations for 1970 and 1980 In Bexar County (San Antonio), Texas. While the data reveal a continuing Mexican-origin disadvantage In regard to violent death rates, there has also been a marked Improvement over time as compared to Anglo males. Moreover. Important ethnic differentials In risk of death by life-cycle stage are demonstrated. Possible explanations for the differences found among the three ethnic groups are discussed.

RESUMEN

Estudios recientes han demostrado el alto grado de similitud entre el riesgo de mortalidad que experimenta la población de hombres de origen mexicano y la población de hombres no hispanos (anglos). Sin embargo, las poblaciones de méxico-americanos y de migrantes mexicanos exhiben tasas elevadas de muertes causadas por homicidio, por accidente vehicular o por otras causas de naturaleza violenta. Aquí se proporciona un análisis comparativo de las tasas de mortalidad por violencia dentro de las poblaciones mexicoamericana y anglo en el condado de Bexar (correspondiente a la ciudad de San Antonio, Texas) en los años 1970 y 1980. Aunque los datos muestran que los hombres de origen mexicano tienden una desventaja en las tasas de mortalidad por causas violentas, se puede notar un mejoramiento en esta medida a través de los años cuando se compara la misma medida para la población de hombres anglos. Además surgen diferencias étnicas importantes en el riesgo de muerte dependiendo de etapa de vida. Se ofrecen posibles explicaciones por estas diferencias entre los tres grupos étnicos.

***W. Parker Frisbie.** Professor of Sociology and research associate. Population Research Center at the University of Texas at Austin. Please send correspondence to the Population Research Center, 1800 Main Building, University of Texas, Austin, Texas 78712. **Rodolfo Cruz Piñeiro.** Investigador del Departamento de Estudios de Población de El Colegio de la Frontera Norte y estudiante de doctorado en la University of Texas at Austin. Se le puede enviar correspondencia a Population Research Center, 1800 Main Building, University of Texas, Austin, Texas 78712.

Introduction

IN 1980, the census enumerated 14.6 million Hispanics, of whom 8.7 million (or nearly 60 percent) were of Mexican origin[1] (Bean and Tienda, 1987; Frisbie, 1991), including approximately 1.1 million undocumented immigrants from Mexico (Passel and Woodrow, 1984). The 8.7 million persons of Mexican origin represented a more than 90 percent increase over 1970, with some fraction of this no doubt due to the success of the Census Bureau in counting undocumented immigrants in 1980. It has been estimated that over 46 percent of the Increase between 1970 and 1980 was due to immigration from Mexico (Bean and Tienda, 1987: 64). This suggests that in many analyses of the Mexican-origin population, it will be useful and, in the case of mortality research, necessary, to consider Mexican immigrants separately.

Although the Hispanic population of the U.S. has continued to grow in size (to over 22 million in 1990; U.S. Bureau of the Census, 1991) and prominence, compared to other racial and ethnic groups, mortality among Hispanics has not been widely studied (Department of Health and Human Services, 1985), and despite the relatively high risk environment experienced by many in the Hispanic community, particularly immigrants, studies of violent death in this population are notably scarce (Shai and Rosenwaike, 1988). The aim of the present research is to extend the few antecedent analyses of this phenomenon by examining: (1) changes in the risk due to specific causes of violent deaths among Mexican Americans and Mexican immigrants between 1970 and 1980 in a large southwestern city, and (2) differentials in the risk of death from such causes at various stages of the life cycle.

Previous Studies

In recent years, the mortality level of the Spanish-surname population has been very similar to that of Anglos. For example, based on

1 The term Mexican origin refers to the population whose heritage traces to Mexico and Includes Mexican Americans (persons of Mexican origin born In the United States) and Mexican Immigrants. “Anglo” refers to white, non-Spanish- surname persons. In this research, Mexican Americans and Mexican immigrants are identified In terms of Spanish surname and nativity (i.e. place of birth). As discussed In some detail below, in our data, the overlap between Mexican origin persons and those identified by Spanish-surname Is so great that the terms “Mexican origin” and “Spanish surname” are used Interchangeably.

three-year averages around census years, life expectancy at birth for white Spanish-surname males in Texas in 1970 stood at 67.7 years as compared to 68.1 for Anglo males (Bradshaw and Frisbie, 1986). By 1980, Ufe expectancy at birth had increased to 70.2 and 70.6, for Spanish-surname and Anglo males, respectively. This near parity between Spanish-surname and Anglo mortality has also been observed in other regions of the U.S., for females as well as males, and for infants as well as adults (Bradshaw and Fonner, 1978; Bradshaw and Frisbie, 1991;Cramer, 1987; Ebersteinetal-, 1987; Forbes and Frisbie, 1991; Frisbie, 1991; Powell-Griner, 1988; Rogers, 1984;
1989; Rosenwaike and Bradshaw, 1989; Schoen and Nelson, 1981). In light of the less favorable socioeconomic conditions to which the Spanish-surname population is subject, such findings have begun to be referred to as an "epidemiologic paradox" (Markides and Coreil, 1986).[2]

However, it should be recognized that the overall similarity in Spanish-surname and Anglo mortality arises out of very different cause of death structures. Specifically, while the Mexican-origin population is at lower risk of death from chronic and degenerative conditions such as cardiovascular disease and most cancers, they are at substantially higher risk due to infectious diseases, diabetes mellitus, and especially from external causes of death such as homicides and accidents (Bradshaw and Frisbie, 1986, 1991;
Bradshaw and Rosenwaike, 1989; Schoen and Nelson, 1981; Shai and Rosenwaike, 1988). Furthermore, while Mexican immigrants, like immigrants in general, tend to have lower mortality from all causes combined than natives in the country of origin (Bradshaw and Frisbie, 1991; Marmot et al., 1984; Rosenwaike and Bradshaw, 1989), male immigrants from Mexico appear to be much more likely than Anglos to be the victims of violence.

2 The relatively low mortality among Spanish-surname *infants* has been attributed to such factors as more favorable birth weight distributions, lower rates of alcohol and tobacco use, and stronger parental roles (Williams et al., 1986). Additionally, underregistratlon of Spanish-surname Infant deaths, due to women from Mexico giving birth In the U.S. and then returning to Mexico with subsequent deaths of Infants never being recorded In the U.S., has been been offered as a possible reason for the appearance of low Spanish-surname Infant mortality (Powell-Griner and Streck, 1982; Kleinman, 1986). While such "hidden deaths" may result In artificially low Infant mortality rates along the Mexico-U.S. border, current evidence indicates the problem Is not a general one (Forbes and Frisbie, 1991). And, of course, the "hidden death" Issue pertains to Infants, not to adults.

Indeed, one of the most striking features of the *mortality* pattern of the U.S. Mexican-origin population is the high rates *from* violent deaths—homicides, motor vehicle accidents, and other causes (e.g., falls, drownings, etc.). It is important to note that these tragically high rates are largely a male phenomenon, both in the sense that males in general have a much higher risk of violent death than do females and in the sense that there is relatively little difference between Anglo and Mexican-origin women in mortality rates from such causes (Frisbie, 1991; Shai and Rosenwaike, 1988). For this reason, in this analysis, we restrict our attention to males.

It is necessary to consider separately the several categories of violent death. For example, in some instances, age-adjusted death rates from homicide have been shown to be 200 to almost 400 percent higher among Spanish-surname males than among Anglo males, while the Spanish-surname disadvantage with respect to motor vehicle accidents has been on the order of 15 to 30 percent (Bradshaw and Frisbie, 1986; Rosenwaike and Bradshaw, 1989). In regard to the latter, the disadvantage appears to be much greater for Mexican immigrants than for Mexican Americans (Bradshaw and Frisbie, 1991). On the other hand, the suicide rate among Mexican-origin males has been observed to be only about half that of their Anglo counterparts, with Mexican immigrants evidencing by far the lowest rates (Bradshaw and Frisbie, 1991; Rosenwaike and Bradshaw, 1989). Such findings make it clear that distinctions must be made among specific causes of death as well as between Mexican Americans and Mexican immigrants—even though the smaller number of immigrants may make some comparisons tenuous. Further, it will be useful to calculate mortality rates specific to various stages of the life cycle. Younger males tend to be at greater risk of mortality from certain forms of violence, notably homicide, than are older men, and overall in the U.S., violence is the third leading cause of death for persons aged 1 to 39, behind only cardiovascular disease and cancer, respectively (Holinger, 1987). Despite this fact, to our knowledge, the present analysis is the first to examine violent death among Hispanics by life-cycle stage.[3]

3 The excellent study by Shai and Rosenwaike (1988) dealing with violent death among Hispanic immigrants to the U.S. provides some information for age groups. However, their analysis does not Involve a comparison of life-cycle changes and does not address change over time.

Data and Methods

The mortality data for this analysis are drawn from a larger data base constructed from original vital records made available for Bexar County, Texas (comprised mainly of San Antonio residents) by the San Antonio Metropolitan Health District. The data set is unique in that it is the only source which contains multiple cause of death data on Mexican Americans and Mexican immigrants over a long period of time coded systematically to the same, and most recent, International Classification of Disease revision (ICD-Q). The data set is described in detail elsewhere (Forbes and Frisbie, 1991; Frisbie, 1991). Certain features of the data that are particularly relevant to this research are discussed below.

Site *of Data Collection*

Bexar County was selected as the site for data collection for two reasons. First, it contains a sufficiently large Hispanic population to allow reasonably stable mortality estimates. Second, because interest was in the Mexican-origin population, it was necessary to locate an area in which the Hispanic population was overwhelmingly of Mexican origin in order to minimize error in classification by ethnicity. Of the five or six cities in the U.S. with sufficiently large Hispanic communities, San Antonio was the only one with a Hispanic population of which over 90 percent was of Mexican origin (Davis et al., 1983:14).

Due to scarcity of data, most mortality research on Hispanics in the U.S. has relied on local area or state-level vital records which, of course, raises the issue of the degree of generalizability of results. We believe that our conclusions may be generalized, with caution, to the larger U.S. population inasmuch as trends known to exist in the larger population also emerge in these data. For example, the general similarity in mortality levels (both adults and infants) between the Mexican-origin population and Anglos, the advantage enjoyed by the former with respect to degenerative diseases and the disadvantage in regard to infectious diseases, diabetes, and external causes of death, and the comparatively low mortality rates of immigrants overall known to exist in the Southwest and nationwide are all present in our data (Frisbie, 1991).

Cause of Death Coding

Cause of death coding was conducted by nosological clerks trained to National Center for Health Statistics (NCHS) standards. Subsequent to the coding, the mortality data were processed through two NCHS editing programs: (1) ACME (Automated Classification of Medical Entities) which selects underlying cause of death (NCHS, 1984a), and (2) TRANSAX which "translate(s) the axis of classification of the manually assigned codes into a form amenable to person-based analyses of multiple causes-of-death" (NCHS, 1984b: 1).

Identification of Ethnic and Nativity Groups

The operational definitions of the ethnic/nativity groups which are the focus of this analysis are as follows. Mexican Americans are identified as white persons of Spanish-surname. The Mexican imigrant population refers to white Spanish surname persons bom in Mexico as determined by the place of birth item on death certificates. Except for Mexican immigrants, few Spanish-surname decedents in Bexar County (San Antonio) were bom outside the United States (over 99 percent of white Spanish-surname decedents were born either in the U.S. or Mexico). Therefore, non-Mexico bom, Spanish-surname decedents (less than one percent) were simply combined into the group referred to as Mexican American. "Anglo" refers to non-Spanish-surname white persons. The Census Bureau's 1980 Spanish-surname list is the basis of classification in both 1970 and 1980.

Spanish surname has conventionally been used in mortality research to operationally define the Mexican-origin population in the southwestern U.S. because it is the only identifier available on death records prior to 1980. It is important to mention that, although two problems with this surrogate measure often exist, neither problem is of any consequence in this analysis. One of the difficulties encountered with the use of Spanish surname is that the population so defined may include individuals of any Hispanic group, even though interest is primarily in a specific Hispanic population. In Bexar County and San Antonio, the Spanish-surname population is so nearly coextensive with the Mexican origin population that use of the term "Mexican origin" appears to be not only appropriate, but precise. It has already been observed that 93 percent of the Hispanic population of San Antonio in 1980 was of Mexican-origin (Davis et al., 1983). Further, the vital records to which we have access extend to the year 1985, and while we do not employ the data past the

1979-1981 circum-census period (because appropriate rate denominators are not available except around census years), examination of the numerator data from 1980 through 1985, when specific identincation of Hispanic group membership is provided by survivors,[4] Increases confidence in the method of measurement. During this period, the overlap of Spanish-surname with Mexican origin is over 95 percent for death certificates where Hispanic origin was reported and over 92 percent even when the cases with missing Hispanic origin are included. Finally, two recent studies indicate that Spanish surname may well be superior to ethnic identification by survivors, especially in the Southwest (Rosenwaike and Bradshaw, 1988;
Rosenwaike et al., 1991).

A second problem arises in regard to female decedents to the extent that exogamy is prevalent. That is, Spanish-surname women who intermarry and take the name of their Anglo husband will be misclassified, and similarly for Anglo women who assume the surname of their Hispanic spouse. Since we focus on males in this analysis, this problem is virtually nonexistent, as obviously is also the case for children below marital age.[5]

Method

Rates are computed as three-year averages centered on census years; i.e., the 1970 rates represent averages for 1969-71, and similarly, the 1980 data are averaged for the years 1979-1981. Given the substantial difference in the age structures of Mexican Americans and Mexican immigrants when contrasted with Anglos, comparisons must be made through use of age-adjusted values. The Anglo male population in 1970 is used as the standard, so that changes can be examined over time as well as cross-sectionally.

Although age standardization is a necessary and venerable demographic procedure, the selection of a standard is always at least partially arbitrary, and in any event, age standardized rates provide an overall summary measure which obscures variation that may be present in different age categories. That is, conventional age standardization cannot be used to determine whether, say, young adults

4 Again, 1980 Is the first year In which a specific ethnic identifier was systematically included in the vital records.

5 In fact, In this data set. the exogamy problem is negligible even for females for reasons related to low rates of Intermarriage (see Frisble, 1991).

are at greater risk of specific causes of death (e.g., accidents) than are the elderly. Accordingly, we also examine mortality levels and changes over time at four life-cycle stages: infants and children (ages 0-14), youth and young adults (ages 15-29), adults (ages 30-64), and the elderly (ages 65 and older).

Mortality data are drawn directly from the vital records of the San Antonio Metropolitan Health District and are adjusted according to the U.S. Vital Statistics to take into account residents of Bexar County who died outside the county.[6] The rate denominators for 1970 were provided by special tabulations from the U.S. Bureau of the Census, specific to age, race, ethnicity, nativity, and sex. The corresponding 1980 denominators were drawn from the Census' 1980 Public Use Micro-Data Sample (PUMS) and were adjusted for a small amount of missing information on surname and place of birth.

Finally, just as in previous mortality research, no adjustment is made here taking into account undocumented immigrants. While there are useful estimates of the number of such persons enumerated, and of those missed, by the 1980 census (Bean and Tienda, 1987; Passel and Woodrow, 1984), no such estimates are available for 1970, no consensus exists regarding the net undercount (Rosenwaike, 1987), and certainly no accepted procedure for adjusting mortality rates is extant. If large numbers of indocumentados were in fact missed by the census, this "could lead to overstatement of mortality rates for this group" (Rosenwaike, 1987: 605). However, any error along this line may well be minimal: "Most of the unenumerated were probably sojoumers, or temporary residents. Although their principal health risks are injuries and violence, if a member of this group did die, quite possibly the death record would not classify the decedent as a U.S. resident..." (Since they are nonresident deaths, they do not affect the death rate of any U.S. population) (Shai and Rosenwaike, 1988: 271; emphasis in the original).

6 Death certificates of decedents who die outside the county of residence are not allocated back to the county. The U.S. Vital Statistics compiles records of such deaths so that adjustments can be made to Improve the consistency of rate numerators with the corresponding denominators. The vital statistics allow adjustments specific for each time period, but not for sex, ethnicity, or nativity. However, our adjusted values yield mortality rates devoid of any worrisome discontinuities over time. Also, careful examination shows that levels and trends in mortality are consistent with those known to exist In the U.S. as a whole, thereby increasing confidence In the generalizabllity of the findings.

Results

Ethnic and Nativity Differences in Age-Adjusted Rates: 1970-1980

As the first step in this analysis, mortality rates due to the most prominent causes of violent death in 1970 and 1980 (standardized to the Anglo 1970 male age distribution) are displayed in Table 1 for Mexican Americans, Mexican immigrants, and Anglos. Specific causes (all consistently coded to the ICD-9 revision) include homicide, motor vehicle accidents, suicide and other external causes (e.g., falls, drownlngs, etc.). These figures show that Mexican immigrant males experience a much higher risk of violent death than do the other two groups. In 1970, the risk of death from all external causes combined is 2.8 times higher for Mexican Immigrants than for Anglos (170.05 per 100,000 as compared to 59.83 per 100,000), with Mexican Americans occupying an intermediate position with a rate (116.55) about twice that of Anglos. By 1980, the differential had narrowed somewhat, as the total rate increased for both Anglo and Mexican American males (to 76.19 and 125.62, respectively), while the rate for Mexican immigrants declined to 149.60. Nevertheless, the risk of death from violence for the latter group was still almost twice the risk experienced by Anglos in 1980.

When one examines specific external causes, it is clear that Mexican immigrants are at a much higher risk of death from homicide. And while all three populations have followed the national trend of increase in homicide, the relative discrepancy between Mexican immigrants and the other two populations remained virtually constant over time. In both 1970 and 1980, the immigrant adjusted rate is 5 to 6 times higher than the Anglo rate and approximately one-third above the Mexican American rate.

In recent years, almost 50 percent of all accidents at the national level have involved motor vehicles (Aiken, 1985). In Bexar County in 1970 and 1980, motor vehicle accidents were the leading cause of violent death among Anglo males (Table 1). Although they are not the leading cause of violent death for the two Mexican-origin populations, motor vehicle fatalities appear quite excessive compared to Anglos. The same is true of the other external causes category, but here the picture is a bit brighter in that both Mexican American and Mexican immigrant males enjoyed a substantial decline in mortality from other external causes between 1970 and 1980. Suicide is the

only specific cause of violent death for which Anglo rates exceed those of the two Hispanic groups.[7]

TABLE 1
AGE-AJUSTED DEATH RATES* FOR THE MALE POPULATION BY ETHNICITY, 1970-1980 (Bexar County, Texas)

rates per 100 000

	1970			1980		
	Anglo	Mexican American	Mexican Immigrant	Anglo	Mexican American	Mexican Immigrant
Homicide	7.60	37.58	50.05	12.91	53.74	70.44
Motor Vehicle	18.23	31.34	36.31	24.18	34.89	33.29
Suicide	16.64	12.66	26.62	19.79	14.08	13.50
Other Exter. Causes	17.36	34.97	57.07	19.31	22.91	32.37
All Exter. Causes	59.83	116.55	170.05	76.19	125.62	149.60
All Other Causes	709.68	720.08	772.47	663.08	648.81	558.16

* Directly Standardized to the 1970 Anglo Male Population

It should be mentioned that the findings thus far are largely consistent with similar comparisons made at the state or national level (Bradshaw and Frisbie, 1986, 1991; Rosenwaike and Bradshaw, 1989; Shai and Rosenwaike, 1988; Schoen and Nelson, 1981), although with few exceptions (Bradshaw and Frisbie, 1986), the earlier analyses did not involve comparisons over time and in no case were both nativity and temporal differences considered simultaneously. Nevertheless, this consistency is important in that it buttresses our confidence in the data manipulation performed in the present research and in the generalizabllity of conclusions reached in the second stage of our analysis, which focuses on life-cycle differences (for which no prior research exists for comparative purposes).

7 Given the small number of Mexican Immigrant suicides, estimates for this group are likely subject to greater than normal random fluctuation.

For convenience, the temporal shifts in external-cause mortality between 1970 and 1980 are summarized in terms of percentage differences in Table 2. Since the general trends are palpable from Table 1, only a brief commentary on the percentage changes is necessary.

Between 1970 and 1980, Anglos were the only group to experience increases in the standardized rates in every category of violent death, with homicide leading the way with a nearly 70 percent increase. The homicide rate grew by over 40 percent among Mexican Americans and Mexican immigrants, but in sharp contrast to Anglos, these populations recorded either small increases or declines in other cause-specific rates over the interval (Table 2). Most dramatic was the trend among immigrant males for whom violent death rates declined in every category. While the adjusted mortality rate from all external causes increased by over 27 percent among Anglos and by about 8 percent among Mexican Americans, the Mexican immigrant rate fell by 12 percent. Thus, even though the violent death rate remained higher in the Immigrant population in 1980, the trend in risk was clearly downward.

TABLE 2
PERCENT CHANGE IN ADJUSTED RATES OF VIOLENT CAUSES OF DEATH (BEXAR COUNTY, TEXAS: 1970-1980)

	Anglo	Mexican American	Mexican Immigrant
Homicide	69.87	43.00	40.74
Motor Vehicle	32.64	11.33	-8.32
Suicide	18.93	11.22	-49.29
Other External Causes	11.23	-34.49	43.28
All External Causes	27.34	7.78	-12.03
All Other Causes	-6.57	-9.90	-27.74

Life-Cycle Differences in Mortality by *Ethnicity and Nativity: 1970-1980*

In light of the comparatively small amount of research on Hispanic mortality in the United States, it is perhaps not surprising that there appears to be no research at all focused on life-cycle differentials and changes over time in violence-related mortality among Mexican Americans and Mexican immigrants. This gap in our knowledge is no

doubt largely due to absence of necessary data, but the situation is unfortunate, especially given the well-known differences in the incidence of violence by age group. For example, in both 1970 and 1980, about 40 percent of all homicide victims in the U.S. were concentrated in the 15-29 year age-group (U.S. Department of Justice, 1989). For the general population, we can say with reasonable certainty that most victims and perpetrators of violent crime are young, and that the same sort of concentration does not pertain in regard to other external causes of death. But we simply do not know how Hispanic populations, whether immigrants or U.S.-bom, differ in risk of violent death at various stages of the life cycle, or whether conditions may have changed in recent years. The data set on which this analysis is based allows us to begin to explore these questions.

The small number of immigrant children (ages 0-14) means there are too few deaths to permit confidence in the full range of comparisons , and the same is generally true for the elderly in all three groups in 1970. Since so little is known of the mortality experience over the life cycle of Hispanic populations, variation over four life cycle stages is examined, but attention is focused primarily on comparisons where the number of deaths is sufficient to allow some confidence in the estimates.[8] In subsequent sections, findings are presented in two formats. The first, which involves simply the tabulation of mortality rates according to life-cycle and ethnicity/nativity categories (Tables 3 and 4), allows examination of the degree to which specific violent causes of death tend to be differentially concentrated at one life-cycle stage or another. The second is a graphic presentation (Figures 1 through 8) of the rates for the two Mexican-origin groups taken as ratios to Anglo rates (so that the Anglo ratios = 1.0) in order to provide a convenient cross-ethnic comparison.

Homicide. Perhaps the most striking feature of the data is the high homicide rate among young adult Mexican Americans and Mexican immigrants—rates which are many times higher than those for Anglos at the same life-cycle stage in 1970 (Table 3 and Figure 1). Even with the convergence implied in the age-adjusted figures, young adult homicide deaths remain 5 to 10 times more likely among Mexican Americans and Mexican immigrants in 1980 (Table 4 and Figure 2).

8 To alert the reader to the potential for instability In rates due to small numbers of decedents In the detailed classifications found In Tables 3 and 4, values which are based on fewer than 5 deaths are bracketed.

TABLE 3
LEADING VIOLENT CAUSES OF DEATH BY ETHNICITY AND LIFE CYCLE STAGE* (BEXAR COUNTY, TEXAS, 1970)
rates per 100 000

	Anglo	Mexican American	Mexican Immigrant
Children			
Homicide	3.15	3.97	(0.00)
Motor Vehicle	5.78	10.21	(35.50)
Suicide	(1.05)	(0.57)	(0.00)
Other External Causes	10.51	18.14	(71.00)
Young-adult			
Homicide	6.72	61.83	120.71
Motor Vehicle	27.36	35.07	(17.24)
Suicide	12.96	19.38	(68.98)
Other External Causes	11.04	35.99	(51.73)
Adult			
Homicide	12.22	50.11	32.50
Motor Vehicle	17.93	26.42	43.33
Suicide	25.67	12.76	(5.42)
Other External. Causes	15.89	30.98	27.08
Elderly			
Homicide	(6.35)	(17.61)	(29.06)
Motor Vehicle	29.65	105.65	135.62
Suicide	48.71	(26.41)	(29.06)
Other External Causes	(80.48)	(105.65)	(96.87)

* Children. 0-14 ages; Young-adult. 15-29 ages; Adult, 30-64 ages; Elderly, 65+ ages; (Number of deaths less than 5).

Homicide deaths peak in the teen-age and young adult years for both Mexican-origin groups. In 1970, e.g., the homicide rates for Mexican Americans and Mexican immigrants in the 15-29 age group are higher than the rates at any other stage of the life-cycle. In the case of immigrants, the young adult rate (120.71 per 100,000) is nearly four times greater than in the adult and elderly years. Among Mexican Americans, however, the difference is more modest (e.g., 61.83 for young adults as compared to 50.11 for the “mid-adult”

ages). In 1980, exactly the same pattern emerges, and again young-adult immigrant males are at a much greater risk of death by homicide than are their Mexican American and Anglo counterparts. On the other hand, homicide rates for men aged 30-64 are typically highest among Mexican Americans. Homicide is always the leading external cause of death in both the young adult and adult years for both Mexican-origin populations in both 1970 and 1980, but never ranks higher than third or fourth among Anglos.

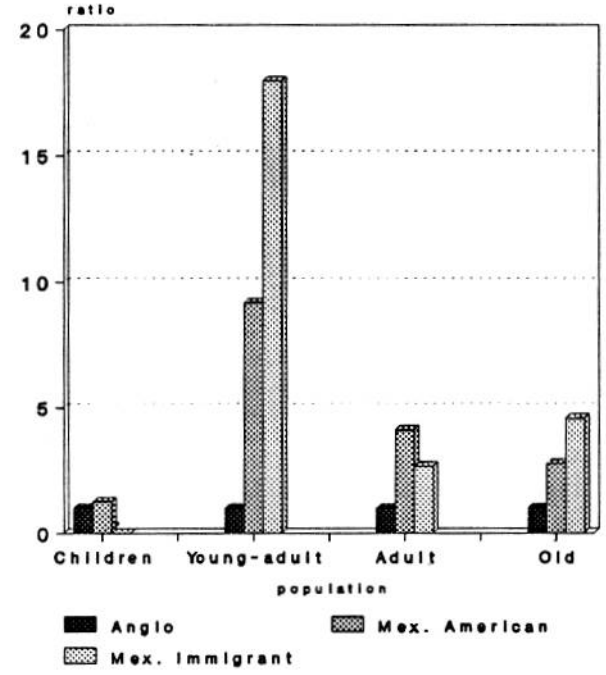
TABLE 4
LEADING VIOLENT CAUSES OF DEATH BY ETHNICITY AND LIFE-CYCLE STAGE* (BEXAR COUNTY, TEXAS, 1980)

rates per 100000

	Anglo	Mexican American	Mexican Immigrant
Children	(0.67)	2.95	(16.03)
Homicide	6.66	8.86	(0.00)
Motor Vehicle	(1.33)	(0.49)	(0.00)
Suicide	8.66	8.86	(16.03)
Young-adult			
Homicide	15.04	78.86	154.53
Motor Vehicle	42.76	53.20	38.63
Suicide	25.37	23.78	(16.56)
Other External Causes	12.68	18.78	49.67
Adult			
Homicide	17.99	77.85	65.65
Motor Vehicle	20.81	30.65	40.12
Suicide	23.63	15.32	18.23
Other External Causes	16.93	25.13	18.23
Elderly			
Homicide	13.37	34.21	(8.50)
Motor Vehicle	28.42	73.31	102.04
Suicide	48.48	14.66	(25.51)
Other External Causes	108.66	(78.20)	76.53

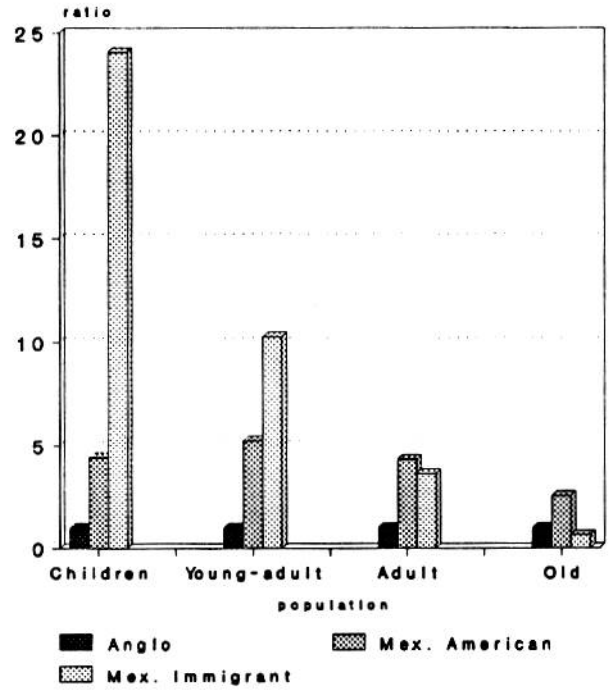
*Children, 0-14 ages; Young-adult, 15-29 ages; Adult. 30-64 ages; Elderly. 65+ ages; (Number of deaths less than 5).

Figure 1. Homicide Death Ratios
male population, 1970



Source: Table 3

Figure 2. Homicide Death Ratios
male population, 1980



Source: Table 4

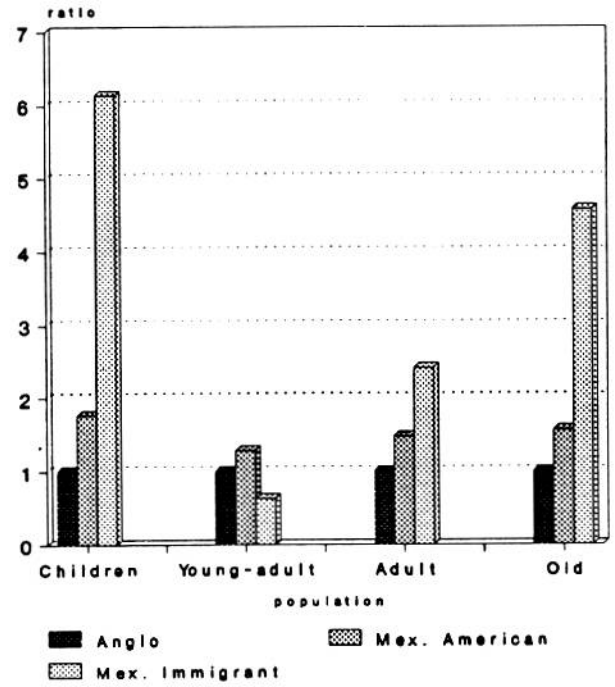
Motor Vehicle Accidents. As illustrated in Figures 3 and 4, except where the number of Mexican immigrant decedents is too small to allow stable estimation, death rates from motor vehicle accidents tend to be higher in the Mexican-origin population at most stages of the life cycle. However, within ethnic/nativity groups, the patterns are rather dissimilar. In 1980, Anglo motor vehicle mortality reaches its highest point in the late teen-age and young adult years (and is a close second in 1970), but among the Hispanic groups, the peak occurs much later in the life cycle (Tables 3 and 4). In fact, this type of accident is the number one external cause of death in both 1970 and 1980 among elderly Mexican immigrants.

It is unclear why motor vehicle death rates peak so much later for persons of Mexican origin than for Anglos. The socioeconomic conditions experienced by the former might prevent the regular maintenance of private means of transportation, but this, in itself, cannot account for the greater risk experienced by older persons, especially elderly immigrants. Part of the explanation may be that older immigrants have difficulty adjusting to American traffic regulations and driving patterns.

Suicide. Figures 5 and 6 confirm the conclusions from earlier research (Bradshaw and Frisble, 1991; Shai and Rosenwaike, 1988;
Smith et al., 1986) that Mexican Americans and Mexican immigrants have considerably lower suicide rates than Anglos. In addition, these figures show that, with the exception of young adults in 1970, the lower risk of suicide in the two Hispanic populations holds at every life cycle stage. Indeed, suicide is the leading cause of violent death among Anglos aged 30-64 and the second leading cause among elderly Anglos in both 1970 and 1980. In sharp contrast, among Mexican-origin males at the same two life cycle stages, suicide is always last, or next to last, in the rank-order (Tables 3 and 4).

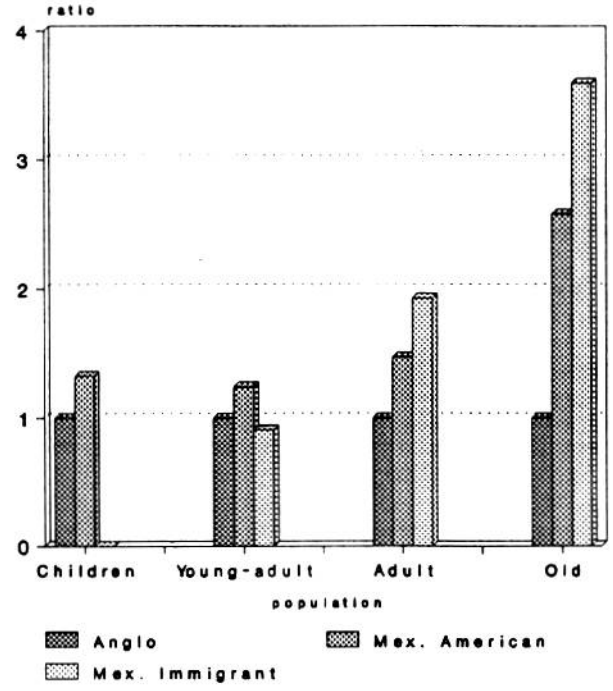
It might be argued, given the large proportion of Catholics in the Mexican-origin population, that the proscription against suicide by that religion offers a partial explanation for these results. However, a large proportion of Cubans are also Catholic, and suicide rates have been found to be high, relative to Anglos, among males in this Hispanic group (Shai and Rosenwaike, 1988). In any event, it is important to note that, contrary to earlier studies, it has recently been reported that Mexican immigrants “were less likely to have a lifetime diagnosis of major depression, obsessive-compulsive disorder, and drug-abuse dependency than non-Hispanic whites,” though the same was not true of U.S.-bom Mexican Americans (Burnam et al., 1987:96).

Figure 3. Motor Vehicle Death Ratios
male population, 1970



Source: Table 3

Figure 4. Motor Vehicle Death Ratios
male population, 1980



Source: Table 4

Figure 5. Suicide Death Ratios
male population, 1970

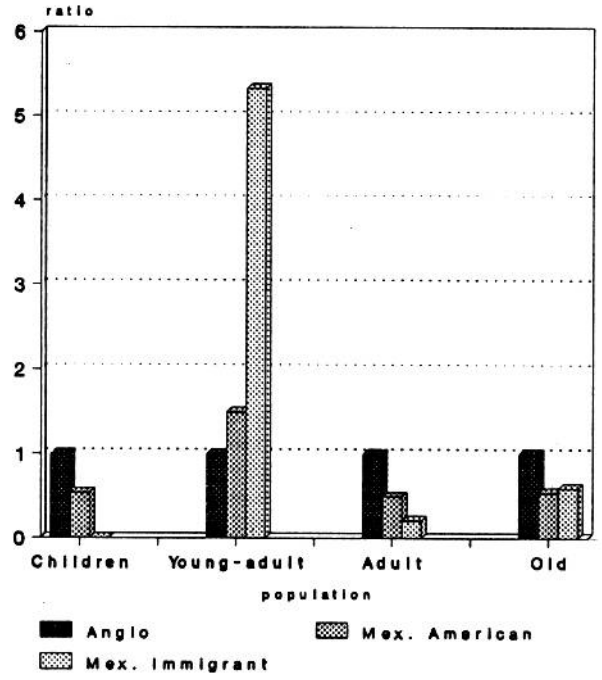
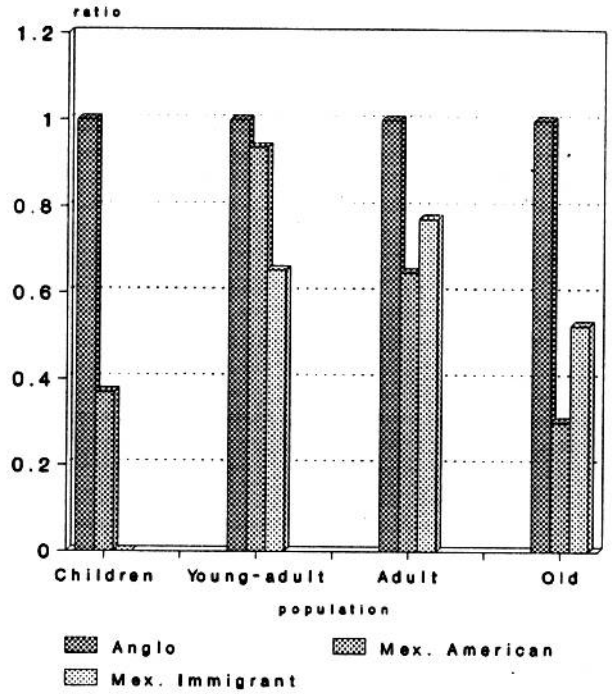


Figure 6. Suicide Death Ratios
male population, 1980



Source: Table 4

A plausible explanation arises out of the greater solidarity of the Mexican-origin family which may, through various types of social support, serve as a buffer against emotional distress or disorder that might otherwise increase the risk of suicide. In brief, the reasoning is as follows. It has been demonstrated that Mexican Americans are considerably less likely than Anglos to have experienced marital disruption due to divorce or separation (Frisbie, 1986) and that, "if present trends continue, households headed by Mexican immigrants will come more and more to approximate the 'American ideal' of a family consisting of a husband and wife with no history of marital disruption ..." while Mexican Americans and Anglos tend to move in the opposite direction (Frisbie et al., 1986). It has also been concluded that (1) social ties are important determinants of health-enhancing behavior, (2) marital status is crucial in this regard and married persons are more apt to engage in positive health behaviors and to experience a more orderly lifestyle than divorced or widowed individuals (Umberson, 1987: 313), and (3) in general, "there is now a great deal of evidence documenting the stress-buffering effect of social support..." (Wethington and Kessler, 1986: 78).

It is acknowledged that the link between marital and family conditions and psychological distress is extremely complicated and that intact marriages do not automatically result in the buffering of stressors or improved health-related behavior.[9] Nevertheless, it is plausible that an ameliorative effect rooted in the relatively greater *stability* of the Mexican- origin family is at least partially responsive for the lower suicide rate among Mexican Americans and Mexican immigrants.

Other External Causes. Perhaps the most encouraging finding from the general age-standardized comparisons (Table 1) is the sharp decline between 1970 and 1980 in Mexican-origin mortality from other external causes. While Anglos experienced a small increment in their death rate from such causes, Mexican American and Mexican immigrant males recorded declines of 34 percent and 43 percent, respectively (Table 2). Because the other external cause classification includes all accidents, other than those associated with motor vehicles, it is to be expected that the distribution of deaths in this

9 For example, it is by no means certain that all intact families provide significant social support, especially In cases where marriage and family relationships are themselves unhappy ones. Also, there appears to be important variability In reaction to stressors in relation to factors such as type of life event (controllable or uncontrollable), sex, and marital status (Thoits, 1987).

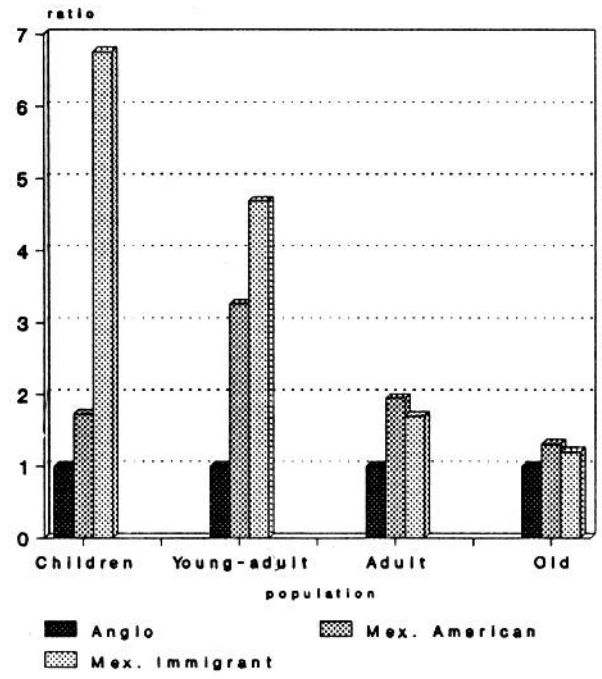
category will be strongly patterned according to life-cycle stage. In particular, it seems reasonable to expect higher rates among young adults who are likely to be engaged in more risk-taking activities and more hazardous occupations and among the elderly who are more susceptible to accidents related to increased frailty and diminution of physical capability (e.g., poorer eyesight, hearing loss, etc.) that are attendant on the aging process. This expectation is largely borne out in the data presented in Tables 3 and 4 for Mexican-origin males, but not for their Anglo counterparts. For all three ethnic groups, old age is the time of greatest risk of fatalities from other external causes. Further, both Mexican Americans and Mexican immigrants have moderately high rates, ranging from roughly 20 to 50 per 100,000 in the prime working ages (young adult and adult), while for Anglos the range is much more narrow (from 11 per 100,000 among young adults in 1970 to a high of only about 17 per 100,000 among adults in 1980). Thus, the lowest level of risk attained by Mexican-origin males during this period is greater than the highest point of the Anglo range. The inference that might be drawn is that during the primary productive years, Mexican-origin males are much more likely to die from accidents, many of which are probably work-related—a disadvantage that is graphically depicted figures 7 and 8.

Although the picture is rather bleak in the cross-section, a dramatic improvement for Hispanics occurred in the single decade from 1970 to 1980. In 1970, Mexican American young adult males were more than three times as likely to die from other external causes as Anglo men in the same life-cycle stage, and the Mexican immigrant to Anglo ratio was even larger—approximately 5 to 1 (Figure 7). But over the decade, the Anglo rates increased slightly while Mexican-origin rates dropped sharply so that by 1980, the Mexican American death ratio had been cut in half (to about 1.5 to 1), and the Mexican immigrant ratio stood at less than 4 to 1 (Figure 8). Similar improvements relative to Anglos are observed for males aged 30-64, especially for Mexican immigrants whose mortality risk from other external causes in 1980 exceeds that of Anglos by a ratio of only 1.08 to 1.

Summary and Discussion

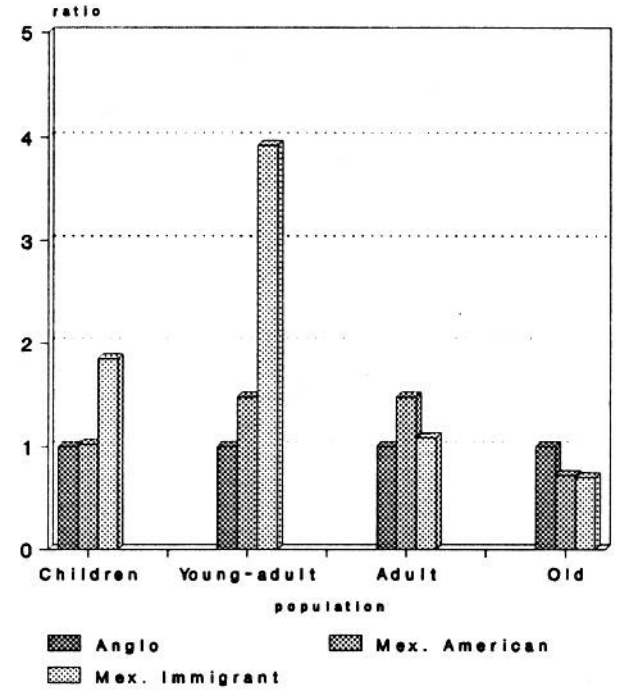
It is of special concern when certain subpopulations are subject to much higher risks of death from any cause, and it is all the more distressing when the cause arises out of violent or otherwise hazardous conditions which it should be possible to ameliorate, if not to eliminate entirely.

Figure 7. Other External Causes Ratios
male population, 1970



Source: Table 3

Figure 8. Other External Causes Ratios
male population, 1980



Source: Table 4

The fact that such tragedies are largely a male phenomenon is small comfort. Our findings of higher rates of mortality due to most external causes, and to violence in particular, among Mexican-origin males are not new, but this analysis is one of a very few which documents changes in adjusted violent death rates over time. In this regard, the news is moderately encouraging in that, with the exception of homicide, violent death rates among Mexican American males increased only moderately (and actually declined markedly in the case of other external causes), while Mexican immigrants recorded general declines in mortality from motor vehicle accidents, other accidents, and suicides, as well as an overall decrease in the adjusted mortality rate for all external causes combined. Particularly striking was the fact that the Mexican-origin population seems to be "protected" against suicide to a greater extent than are Anglos. Unfortunately, the Anglo males in our data recorded the largest proportional Increase in every major category of violent death between 1970 and 1980, including suicide. Although San Antonio and Bexar County, Texas, cannot, by any means, be viewed as precisely representative of the U.S. as a whole, the fact that our data usually correspond fairly closely to the levels and trends observed nationwide should mean that some cautious generalization of conclusions is warranted. One of the more important of these conclusions is that, except for homicide, the environment in which Mexican-origin males exist has improved markedly in comparison to Anglos.

Other research has paved the way for our consideration of variations in patterns of violent death by life-cycle stage in Hispanic populations, including immigrants (e.g., Bradshaw and Frisbie, 1986; Rosenwaike and Bradshaw, 1988; Shai and Rosenwaike, 1987). Here, we have attempted to extend previous analyses by focusing on life cycle differences and temporal variation in external causes of death for Mexican Americans and Mexican immigrants as compared to Anglos. Due to small N's in the immigrant population, rigorous comparisons could not be made across the entire range of life cycle stages. Importantly, though, it was possible to document substantial variation by ethnicity and nativity. For example, among Mexican immigrants, homicide rates are dramatically higher in the late teen-age and early adult years, while the rate for Anglos peaks in the 30-64 age group, and in the case of both Anglos and Mexican Americans, there are only very modest differences between these two life cycle stages. Also significant is the much greater prominence of motor vehicle mortality for elderly Mexican origin males. These and other such results strongly suggest the utility of continuing comparative research on violent deaths among Hispanics.

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