public health practice to meet the increasingly difficult challenges we face.

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Blue Thursday? Homicide and Suicide Among Urban 15–24-Year-Old Black Male Americans

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Synopsis

A comparative analysis was made of day of the week variations in homicide and suicide deaths among 15–24-year-old white males, black males, white females, and black females in the 22 counties with the most black persons in the United States. Thirty-seven percent of black Americans and 14 percent of white Americans lived in these densely populated counties.

The authors expected a weekend excess of homicide and a Monday excess of suicide. They found a pronounced excess of homicides on weekends, especially among white males. A slight excess of suicide was observed on Monday, but other slight excesses of suicide were also found.

Young black males exhibited an unexpected excess of homicides and suicides on Thursday. On Thursdays the black male-white male ratio for homicide was 1.43 and for suicide, 1.26. Possible explanations for the young black males' blue Thursday phenomenon are offered.

THE PURPOSE of our research was to compare day of the week variations in suicide and homicide for 15–24-year-old black and white Americans. Researchers have studied day of the week, as well as other cyclical variations in violent deaths. In the population as a whole, suicide peaks in the spring and fall and on Monday, and suicide is less common on holidays. Homicide peaks during July and December, on weekends, and on national holidays (*1–9*). Despite this substantial literature, we could not find comparisons of violent death cycles among 15–24-year-old black and white Americans that controlled for both sex and urbanization.

There are reasons to expect that young black males would have patterns of violent death by day of the week that are different from white males and black or white females. Young black males are less likely to work, go to school, and drive automobiles than white males. For example, during the period 1980–85, black males 14–24-years-old were 33 percent more likely to drop out of school than white males; 18–24-year-old black male high school graduates were only 78 percent as likely to be enrolled in college as white males; and 16–24-year-old blacks were 2.5 times as likely to be unemployed as their white counterparts (*10,11*). A 1981 study showed that black Americans were only 72 percent as likely as white Americans to drive an automobile (*12*).

These differences in activities, which are also intertwined with socioeconomic status, build different daily cycles of violent risk into the lives of young black and white Americans. Specifically, young white men are more likely than young black men to concentrate their consumption of alcohol and drugs as well as increase contacts with family members, friends, and acquaintances on weekends. Consequently, we expected relatively more deaths of young whites on weekends and relatively more deaths of young black men during the week.

We also expected patterns for black males to differ from those for young women of either race because young men, especially young black men, are much more likely to engage in violent group encounters with each other and authorities over control of territory, drugs, and other symbols of power that would lead to multiple violent deaths (*13,14*). For example, Greenberg and coworkers (*15*) found that black homicides were much more likely than white homicides to occur in clusters of two or more deaths on a single day and in clusters of 1–3 days duration.

An analysis of seven of these clusters found two related to clashes between police and black youths, a third was probably related to youth gang activity, and four were of uncertain origin. At this time, however, despite numerous media accounts of youth gang violence (*16–18*), it is not possible to state with certainty the proportion of violent deaths of young black men that are related to gang violence.

Methods

We picked the 22 counties in the United States with the most black Americans. Each had at least 200,000 blacks (see box, page 266). Every county is coterminous with a major U.S. city, or part of a major U.S. city, or lies within a major U.S. city (Brooklyn, Queens, New York County, the Bronx), or is adjacent to a major city (Prince Georges County, MD, next to Washington, DC). By limiting the analysis to urban counties, we deliberately focused on the increasing rates of violence in urban centers and control for urban-rural differences in violent deaths (*19*).

Thirty-seven percent of black Americans and 14 percent of white Americans lived in these 22 counties in 1980. Overall, 69 percent of the population in these counties was white and 28 percent was black. The remaining 3 percent were primarily Asian Americans. Fifteen percent of the population was Hispanic. It was not possible to include Hispanic and Asian populations in this analysis because of limited numbers and concentration of these populations in only a few counties. In other words, this research is about black-white differences in the major urban centers of the United States. The findings may not be relevant to the populations of smaller cities, suburbs, and rural areas.

The number of homicides and suicides during the period 1979–85 came from National Center for Health Statistics' mortality files. The proportion of deaths occurring on each day was obtained by dividing these totals by the grand total. We also calculated midweek (Tuesday, Wednesday, Thursday) and weekend proportions. These proportions allowed us to determine the extent to which violent deaths of black persons occurred on the same days as violent deaths of whites. The proportional difference was tested by a *Z*-test of proportions. For example, the proportion of suicides of black males on Monday (.145) was compared with that of white males on Monday (.150). The proportion expected to occur by chance is .143. A total of 28 compari-

Twenty-Two Counties Included in the Study[1] Ranked in Descending Order by Number of Black Americans

Cook, IL (Chicago)
Los Angeles, CA
Wayne, MI (Detroit)
Kings, NY (New York City)
Philadelphia, PA
Harris, TX (Houston)
Washington, DC
Baltimore, MD
Bronx, NY (New York City)
Queens, NY (New York City)
Cuyahoga, OH (Cleveland)
Shelby, TN (Memphis)
Essex, NJ (Newark)
New York, NY (New York City)
Orleans, LA (New Orleans)
Fulton, GA (Atlanta)
Dallas, TX
Dade, FL (Miami)
Prince Georges, MD (Washington, DC)
Jefferson, AL (Birmingham)
St. Louis, MO
Alameda, CA (Oakland)

[1] If the city does not have the same name as the county, the city's name is in parenthesis.

sons (2 race-sex groups × 2 causes of death × 7 days) were made. Between one and two of these race-sex comparisons would be expected to be significantly different at $P<.05$ by chance.

Although every county had at least 200,000 black Americans, five counties—Cook (IL), Los Angeles (CA), Wayne (MI), Kings (NY), and Philadelphia (PA)—each had more than 600,000 blacks. Aggregate comparisons of all 22 counties could be unduly influenced by these counties. Consequently, we also compared proportions of these events among the black and white populations within each of the 22 counties. For example, we counted the number of counties in which the proportion of homicides of black males on Monday exceeded the proportion of homicides of white males on Monday. If the proportion of homicides occurring on Monday was higher for blacks than whites in 11 of the 22 cities, we could not conclude that black males consistently have a higher proportion of homicides occurring on Monday than do white males. If the black male proportion was higher than the white male proportion in 16 or more of the 22 counties ($P<.05$), we would conclude that blacks have a greater tendency to die from homicides on Monday than do whites. The results from these 22 county comparisons are too extensive to include in the tables, so statistically significant results ($P<.05$) are noted in the text.

It was possible to calculate annual age-specific death rates for the period 1979–85 for blacks and whites in these 22 counties. However, we deliberately chose not to make the calculations because we would have had to rely on sex-specific population-at-risk estimates for the years 1981–85 prepared by the U.S. Bureau of the Census. These intercensual estimates are useful for calculating age-adjusted and age-specific rates for large populations. We believe that the estimates are less reliable for small age, race, and sex-specific populations such as those represented by the county data used in this study. Death rates calculated with these data could be misleading. Consequently, the rates were not calculated.

Results

A total of 10,725 young blacks and 11,181 young whites died from violent causes during 1979–85 in the 22 counties. If violent deaths were randomly distributed, 14.3 percent would occur on each day of the week. The table, page 267, shows that for homicide both white and black populations deviated from the random distribution. The proportions of homicide deaths occurring on Saturday and Sunday were as follows: 42 percent of white males and 32 percent of black males, black females, and white females. These proportions compare with the 28.6 percent expected by chance. The white male proportion is significantly higher than the random expectation and the proportions of the other three subpopulations ($P<.05$). In support of these pooled results, we found that the white male population had a higher proportion of deaths on Saturday and Sunday than black males in 16 of the 22 counties ($P<.05$).

A most interesting observation was that 15.6 percent of the homicides of black males occurred on Thursday (versus 14.3 percent expected by chance). Only Saturday had a greater proportion of homicides in this group. Furthermore, the black male proportion of homicides was greater than the white male proportion in 19 of our 22 urban counties, the largest number of counties in any of our comparisons ($P<.05$).

The results for suicide are noticeably different from the results for homicide. Each subpopulation manifested the expected Monday excess. But none

Proportion of black and white homicide and suicide deaths by the day of the week

Category and day of week	Black male	White male	Ratio of black male to white male	Black female	White female	Ratio of black female to white female
Homicides:						
Monday	.127	.132	0.962	.151	.146	1.034
Tuesday	.129	.101	1.277	.147	.144	1.021
Wednesday	.127	.104	1.221	.130	.132	0.985
Thursday	[1].156	.109	1.431	.122	.127	0.961
Friday	.136	.132	1.030	.128	.133	0.962
Saturday	.174	.216	0.806	.163	.133	1.226
Sunday	[1].150	.204	0.735	.155	.182	0.852
Total	8,024	5,736	...	1,534	1,073	...
Suicides:						
Monday	.145	.150	0.967	.169	.148	1.142
Tuesday	.139	.158	0.880	.139	.145	0.959
Wednesday	.146	.137	1.066	.118	.130	0.908
Thursday	.158	.125	1.264	.144	.146	0.986
Friday	.134	.133	1.008	.169	.137	1.234
Saturday	.134	.139	0.964	.118	.143	0.825
Sunday	.140	.153	0.915	.139	.146	0.952
Total	931	3,501	...	236	871	...

[1] Black proportion is significantly different from the white proportion at $P<.05$.

of the Monday proportions is statistically significant. Again, we observed a disproportionate number of deaths of black males on Thursdays: 15.8 percent. This proportion was not statistically significant from the random expectation of 14.3 percent, but it was the highest proportion of suicides of black males on any day.

Discussion

Homicide rates for black males are six times the rates for white males, and suicide rates of whites are double those of blacks (*13,14, 20–22*). Compared with these differences in rates, day of the week differences we observed in this study between blacks and whites are small. In fact, all four populations manifest weekend excesses of homicide and slight Monday excesses of suicide. The white male weekend excess is particularly striking but had been expected.

The excess of homicides and suicides of black males on Thursday was not expected. One explanation is that the Thursday results are random events. Evidence to support this explanation is that the number of statistically significant black-white differences was 2, which is about what random chance would predict (1.4). The aggregate Thursday black male-white male homicide ratio (1.431), and the fact that black males had higher proportions than white males in 19 of the 22 counties on Thursday, clearly suggests something that is related to homicide is different in the black and white communities. But the black male-white male suicide ratio (1.26) was not significantly different, and blacks had higher rates than whites in 15 of 22 counties (not significantly different). In other words, we may be overstating the case for a Thursday suicide pattern because of the presence of a much stronger Thursday homicide pattern.

Assuming that there really is a "blue Thursday" for young black men, we spoke to national and local government officials, organizations that keep records on payrolls, local labor officials, and university labor economists. They suggested a variety of explanations, some of which were, in fact, contradictory. For example, it was suggested that Thursday is a major shopping day and that many hourly workers do not work on Thursday, so that for young male blacks Thursday is like an early Saturday, a time when young men can drink too much alcohol and engage in violent confrontations.

On the other hand, the head of a service workers' organization not only strongly disputed that thesis but argued that exactly the opposite occurred. That is, young people who work in car washes, restaurants, gasoline stations, and other jobs are paid every Friday. In fact, she argued, the reason for both the homicide and suicide excesses is that young men do not have enough money on Thursday, their anxiety increases, and they become involved in domestic disputes. Frankly, both of these scenarios may be accurate or inaccurate. It is not possible to tell with published data because the U.S. Bureau of Labor Statistics and the American

'The aggregate Thursday black male-white male homicide ratio (1.431), and the fact that black males had higher proportions than white males in 19 of the 22 counties on Thursday, clearly suggests something that is related to homicide is different in the black and white communities.'

Payroll Association do not collect data on what day of the week people are paid. Furthermore, they noted that a good deal of the money that exchanged hands was probably part of the "hidden economy" that they do not monitor.

The results of this study strongly suggest that geographic and epidemiologic studies of black male violence are needed. First, we need to determine if the results we observed for 1979–85 held throughout the 1980s. We will repeat the analysis for the same counties, adding more recent mortality data. Since the 1990 census population counts are becoming available, we can also calculate age-specific mortality rates for older and younger populations to determine if weekly cycles are consistent by place and age. The geographic analyses deserve followup in smaller cities and suburban and rural areas, as well. Data permitting, we will also investigate violent death cycles among Hispanic and Asian Americans. In addition to analysis by day of the week, we will further test existing statistical procedures and develop new ones (*15*) that will allow us to measure the extent to which violent deaths cluster in space and time.

Geographic studies can identify unexplained phenomena like blue Thursday and the best places to study them. When these geographic studies are completed, then it is necessary to develop an epidemiologic and intervention program to isolate risk factors from surveys of persons. On the basis of this initial research, we are hopeful that a research and intervention program can be developed from the finding of age, sex, race, and ethnic-specific day of the week differences in violent death.

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