

DISPROPORTIONATE MINORITY/POLICE CONTACT: A SOCIAL SERVICE PERSPECTIVE

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The literature pertaining to disproportionate minority contact by the police coalesces around two specific lines of thought. One describes the police as a racist, enforcement arm of the economic and political elite. The second line of thinking asserts that minorities are disproportionately involved in criminal activity and, consequently, holds disproportionate minority contact by the police to be the natural consequences of disproportionate criminality.

This article explores a third possibility, namely, that policing is a social service and some people consume that service, along with other social services, at higher rates. The rates of calls for service to the police significantly affect deployment of police resources. If some neighborhoods call the police significantly more than others, those neighborhoods are likely to have police deployed to them significantly more than others. This assumption was borne out by the data.

Comparing service utilization rates in the City of Houston across census tracts and service categories, this article reveals that areas of the community that disproportionately consume other social services also disproportionately call the police. Specifically, this study reveals patterns of fire and EMS service utilization by minorities that are comparable to their rates of police service utilization. The study also reveals that the pattern of police service over-utilization is similar to the pattern of over-utilization of public assistance.

Key Words: police/minority contact, resource allocation, social service utilization

INTRODUCTION

In the criminal justice system, minorities are disproportionately represented as victims, suspects, and defendants at every level (Chiricos, Welch, & Gertz, 2004). The police, it has been noted, have especially disproportionate contact with them (Chamblin, 1989). Prosecutors also have disproportionate contact with minorities, presumably, as a function of the disproportionality in police activity (Harer & Steffensmeier, 1992). Prisons, jails,

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probation, and parole reflect this trend as well. Disproportionate minority contact with the entire criminal justice system begins with the first link in the criminal justice chain—the police officer (Padgett, 2002).

The Conceptual Frame

In addressing the issue of disproportionate minority contact with the police, this article takes the position that social scientific inquiry to date may have assumed that such contact is symptomatic of one problem, whereas it may be symptomatic of a different one. If this is so, this misdirection has led to administrative, legislative, and judicial confusion resulting in myriad problems. In response to this discussion, we began to collect research articles that addressed the issue of disproportionate police-minority contact. We found the articles obtained to be representative of the two sides of the debate but, while some articles confirmed that disproportionate minority/police contact occurs (Chamblin, 1989), we could not find a single article that considered the possibility that policing is a social service that minority populations simply utilize at higher levels than other groups. As is probably evident by now, this paper will consider another point of view that may offer an interesting lens with which to view the disproportionate contact debate.

LITERATURE REVIEW

Beginning with the contention that disproportionate contact results from institutional racism and prejudice, there is a common thread that runs through these articles. Several authors (Banks, 2001; Eitle, D'Alessio, & Stolzenberg, 2002; Harris, 2002; Kane, 2003; Petrocelli, et al., 2003; Wilson, et al., 2004) use critical or conflict theories to explain their observations and support their conclusions. The articles conclude that the social system is corrupt and law enforcement is either an enforcement arm of the powerful majority or a product of society's racism and prejudice in general.

A differing opinion on disproportionate minority/police contact studies the offenders rather than the police. Succinctly, the articles supporting this position (Buerger & Farrell, 2002; MacDonald, 2001; Schafer, et al., 2004) argue that the reason for disproportionate contact is because certain minority groups commit a disproportionate number of crimes relative to their representation in society. Thus, they come into contact with police at a disproportionate rate to their numbers in the general population because they commit more crimes. When the fineries are stripped away, the argument from each side can be represented simply as: racism vs. crime proneness.

A DIFFERENT APPROACH

There is support by some for the contention that policing is a social service (Bjerregard & Lord, 2004; Cordner, 2000; Johnson, 1981; Schafer, Huebner, & Bynum, 2003; Wells, Horney, & Maguire, 2005) and social services tend to be disproportionately utilized by minorities. When the utilization of other social services (e.g., food stamps—U.S. Department of Agriculture, 2002; Women, Infants, and Children (WIC)—Kresge,

2003; Temporary Assistance to Needy Families (TANF)—Schexnayder, et al., 2002) is examined, there is a clear tendency for minorities to disproportionately utilize social services.

In fact, this article contends that the question--Why is there disproportionate minority/police contact?--is the wrong question. The correct question should be: Based on disproportionate utilization of other social services, why should we expect proportionate minority/police contact?

An issue that must be addressed when comparing disproportionate utilization of social services is whether the service is requested or compelled. The social services mentioned above are not forced on the people who use them. Instead, they are available to the general public and those who need the services actively seek them out. If police service consists of the police forcing their way into minority communities (pushing of service), then there is a significant difference in how policing compares to other social services. However, if police services are requested (pulling of service) then a more direct comparison can be made. This will be addressed by the research presented here.

DATA COLLECTION

For this analysis, two specific databases were used. Data from the Houston Police Department was collected from the City of Houston public information office. The City of Houston allowed us to purchase data regarding calls for service to police, fire, and emergency medical services (EMS). The data included calls for service and the addresses and police beats in which these calls originated for 2002.

An upgraded bundle of information was purchased from the Census Department with information on the 2000 census. Specifically, census data provided racial demographics of census tracts (these are different than police districts, but that issue will be addressed later) and specified whether anyone in a household was receiving any form of public assistance. These databases did not resolve all of the questions, but they did allow certain, tentative conclusions to be drawn.

ISSUES TO BE ADDRESSED

Because the information on fire and EMS calls was considered to be a bountiful gift, the decision was made to use it as a sort of control group. The study was initiated by determining if minorities disproportionately use police services and, if they do, if their utilization rate of police services is similar to their use of fire and EMS services and social services. The reason to view fire and EMS services as a control group is because they are similar to police services in their availability while no one accuses fire or EMS of forcing their services on the community. They are available if needed but are generally not considered to be invasive to a community.

Keeping the above factors in mind, the research seeks to explore whether census tracts containing persons who frequently use other social services are significantly more

likely to call the police for assistance than tracts that do not often use other social services. Also, it is important to know if minorities are overrepresented in the census tracts with the highest utilization of other social services and police services and if minorities are overrepresented in the census tracts with the highest utilization rates of fire and EMS services.

There may be various explanations for the disproportionate use of social services by minorities. Generally, most minorities who use social services do so because they need the service. The police, however, are viewed as initiating the disproportionate contact. If the problem is that police services are being pushed onto an unwilling community, then it should stand to reason that the pattern for rates of police calls for service would be substantially different than the pattern of utilization rates of public assistance that are pulled into communities by residents.

If minority communities use police services at the same rate as other social services and police services rates are statistically similar to the rate at which they call for fire service, it is not unreasonable to conclude that police are in minority neighborhoods because they are called for assistance and the community members want them to be available.

As mentioned earlier, the census tracts and the policing districts are not the same geographic entities. In order to address this problem, the Texas Research Institute for Environmental Studies (TRIES) was contacted. Because TRIES observes, maps, and records population trends, they were able to merge data from various sources and geocode that data. All data received from the city of Houston and the Census Bureau were in a format conducive to input into Arcview Geographic Information System (ARCGIS 9.0). This allowed TRIES to locate and place 794 census tracts for the city of Houston and overlay the calls for service (police, fire and EMS) onto those tracts.

A second problem was resolved by a fortuitous event. Hoover (2003) had recently completed a racial profiling analysis for the Houston Police Department and in that report an analysis of police officer density was performed. That analysis and the data underlying it form the basis of comparisons of police staffing patterns as a function of concentrations of calls for service. Because these data are aggregated according to patrol district, as opposed to census tracts, direct comparison with other measures is not possible. Instead, these data are used simply to assess whether the police are disproportionately assigned based, in part, on calls for service. It addresses the question of whether officers are assigned uniformly based on population rates or are they assigned where they are needed based on calls for service. If the latter is the case, then more officers will be patrolling minority dense districts because they are needed and this may help explain disproportionate minority/police contact.

STATISTICAL ANALYSIS

Four variables—calls for service to the police, calls for service to the fire department, calls for service to EMS (EMS), and use of public assistance (SS)—were evaluated. The calls for service were taken directly from the databases provided by the various depart-

ments in the City of Houston. The use of public assistance was taken from the census form that asks if any member of the household is using public assistance.

The four variables were evaluated on the basis of their distribution relative to the demographic composition of the census tracts. The census tracts were separated by percentage of minority residents, with the combined number of black and Hispanic residents determining the minority populations. Some tracts had as low as a 1% minority population; whereas, others were as high as 98%. In the final table, the minority populations were separated into 0-9%, 10-19%, and up to 90-100%. This separation provides 10 rows of differentiation for the four variable columns. The researchers requested that TRIES also combine the variables based on income level to permit a comparison and percentage of minority population; however, the data source would not allow this breakdown.

Data issues

After the raw data were placed in ARCGIS, data analysis was conducted to provide an initial observation. It was readily apparent that calls for service in two census tracts were skewed. The census tract numbers 100000 and 210100 are located in the middle of Houston's downtown business area. With a population of 7,945 in tract 100000, there were 15,919 calls for service (CFS) to the police, 2,738 CFS to the fire department, 4,105 CFS to EMS, and 31 persons were using public assistance. The number of calls to the police resulted in the data being skewed.

As the CFS were placed into ARCGIS, it became apparent that there were other problems in the databases. Streets or block numbers that could not be located made it necessary to create matching criteria. It was determined that each address must have an 80% match with an existing address to remain in the database. This resulted in a reduction of 67,606 CFS to the police.

Issues relating to skewed or inappropriate data drove the calls for police services from an initial number of 1,263,949 to 948,173. The total dropped was 315,776 and constituted 25% of the original CFS to the police department. Similar issues were addressed in the CFS to fire and EMS; thus, a data table was created.

Data Table

Once the initial issues related to the data were resolved, a table (Appendix A) was created to provide an overview. The first column in Appendix A shows the percentage of the minority population. The percentages comprise the row with 0 representing a 0-9% minority population, 1 representing 10-19% minority population and so on up to 9 representing 90-100%, which completes the bottom row. The columns consist of the rate of CFS to police, fire departments, and EMS as well as the rates of public assistance utilization. Also included in the columns are the minimum and maximum number of variables found. Appendix A provides the numbers used to conduct the analysis.

Creating Rates

Because census tracts varied in population size, the use of rates was determined to be an effective method of comparing tracts. Following an example of the *Uniform Crime*

Reports (UCR), a rate was calculated for each variable in each census tract. As noted earlier, there are 794 census tracts in Houston ranging in population from one to 25,635. Although census tracts generally have populations ranging from 4,000 to 5,000, fully 20% of Houston's had a population of 10,000 or greater.

The Federal Bureau of Investigation (FBI) calculates the crime rate reported in the UCR for each jurisdiction. The method of calculation is to take the number of reported crimes divided by the population of the jurisdiction furnishing the reports and then multiply by 100,000. This provides a crime rate and allows cities of varied sizes to compare crime in both their jurisdiction and others. This concept is used in establishing a rate for each of the variables.

For purposes of comparison in the present research, a similar method of calculating rates is used. By taking CFS to police, fire, and EMS and the number of households reporting use of public assistance in each census tract, dividing it by the population of that census tract and multiplying times 10,000, a rate emerges that is a whole number and will allow comparison among census tracts. When the equation is complete, the rate numbers are rounded and only whole numbers are used.

Further Data Adjustment

Once the data were converted into rates and placed in the table, each census tract was analyzed. During this analysis, five census tracts demonstrated unusual rates such as census tract 320400 with a population of one. There were, however, 255 CFS to police, 28 CFS to fire, and 43 CFS to EMS. That census tract includes Hobby Airport, and clearly more than one person was addressed by social service agencies.

In total, five census tracts had similar distortions. Thus, census tracts 314200, 212200, 333400, 331000, and 320400 were removed. Each contained undeveloped areas, refineries, or large parks that skewed the data. This equates to a total removal of seven census tracts with a combined population of 14,654. It seems unlikely that this would distort analyses based on a city population of more than four million people.

DATA ANALYSIS

Two forms of statistical analysis were conducted with the first being a correlation coefficient. The correlation between the variables was significant.

Table 1 shows a very strong correlation among all of the variables. For police and public assistance, the $r = .838$ is quite high. Significant at the .002 level, it clearly satisfies the social science standard of $p < .05$.

Table 1
Correlation of Variables

| Variables | Police | Fire | EMS | SS |
|-----------|--------|--------|--------|--------|
| Police | | .795** | .943** | .838** |
| Fire | | | .869** | .706* |
| EMS | | | | .930** |
| SS | | | | |

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

All of the correlations are significant at the $p < .01$ standard except the correlation between fire and public assistance. However, the $r = .706$ for fire and public assistance is significant at the .023 level which does satisfy the $p < .05$ criterion.

Regression

Because the relationship between minority utilization of police service and public assistance is at the heart of the research, a regression model of those variables was created. The model indicates that not only does a relationship exist but that relationship is positive and significant.

Table 2 reports a regression model that regresses the police service utilization variable onto the public assistance variable. The model seeks to determine whether one could predict CFS to police in a census tract if that person is aware of the rates of use of public assistance.

Table 2
Regression Model (Police as the Dependent Variable and Public Assistance as the Independent Variable)

| Variables | B | SE B | Beta | T | Sig |
|-----------|----------|---------|------|-------|------|
| Constant | 3494.392 | 356.456 | | 9.803 | .001 |
| SS* | 11.634 | 2.678 | .838 | 4.345 | .002 |

* $R^2 = .702$, adjusted $R^2 = .665$.

The ability of one variable to account for movement in the other variable is expressed by R^2 . The initial computation of R is the first step in providing a basis for determining a level of significance in the predictive ability of one variable, use of public assistance, to predict the positive or negative movement of the other variable, CFS to police. An adjusted R^2 is determined by squaring R and providing an adjustment of predictive ability based on movement by the variables.

In this statistical technique, 0 indicates no predictive ability, and 1.0 indicates perfect predictive ability. Babbie (1995) considers a correlation higher than 0.6 to be very

strong and higher than .7 to be excellent. In the present analysis, an R^2 of .702 and an adjusted R^2 of .665 indicates very strong to excellent predictive ability. In proportional terms, two-thirds of the movement in CFS to police can be accounted for by use of public assistance. In social science that is a very high score (Hagan, 2000).

The regression model created by SPSS allows the linear exploration of the relationship between variables. Whereas R^2 indicates the level of predictive ability of one variable to another, the regression formula calculates the direction and amount of change. The model demonstrates a correlation between the CFS to police and use of public assistance that is positive. They vary together in the same direction.

With the high correlation among the four variables and the regression model demonstrating a strong, significant correlation between police service utilization rates and public assistance utilization rates, it is reasonable to predict that a regression model using fire and EMS as the dependent variables and public assistance as the independent variable should yield similar results.

As shown in Table 3, public assistance is a predictor of calls for fire service. Although it does not appear to be as strong a predictor as it was for police calls for service, the fact that it accounts for more than 40% of the variance in calls for service from the fire department is significant.

Table 3
Regression Model (Fire as the DV and Public Assistance as the IV)

| Variables | B | SE B | Beta | T | Sig |
|-----------|---------|---------|------|-------|------|
| Constant | 473.635 | 105.559 | | 4.487 | .002 |
| SS* | 2.233 | .793 | .706 | 2.816 | .023 |

* $R^2 = .489$, adjusted $R^2 = .435$

Table 4 presents the data from an analysis with EMS service calls as the dependent variable and indicates that the independent variable of public assistance explains more than 80% of the variance in calls for EMS. Both tables are consistent with the anticipated predictive value of public assistance to utilization of other social services.

Table 4
Regression Model (EMS as the DV and Public Assistance as the IV)

| Variables | B | SE B | Beta | T | Sig |
|-----------|---------|--------|------|-------|------|
| Constant | 493.802 | 97.766 | | 5.051 | .001 |
| SS* | 5.270 | .734 | .930 | 7.176 | .001 |

* $R^2 = .866$, adjusted $R^2 = .849$

RESULTS

The tables and statistical evaluations all indicate that there is a strong correlation between CFS to police, CFS to fire, CFS to EMS, and use of public assistance. We decided to evaluate three questions:

Do neighborhoods with the highest minority concentration (African American and Hispanic populations) consume police services at a higher rate than majority neighborhoods and the city average?

Does utilization of police services follow the same pattern as other city services, namely, fire/EMS services?

Are census tracts containing citizens who use social services significantly more likely to call the police for assistance than tracts that do not use these services?

Regarding the first question, Appendix A provides a clear visual picture of the upward trend in utilization of social services as the percentage of minorities rises. Appendix A indicates a definite rise in rates of CFS to police. Just as utilization of all social services rises as the minority percentage increases, police services in areas with more than a 50% minority population are greater than those with less than 50% and clearly greater than the city average.

The second question can be demonstrated by using Table 1 as a guide. The pattern of each social service utilization follows the others very closely. Table 1 provides statistical evidence that all of the utilization patterns of the social services are significantly related. In fact, they show a very strong correlation.

As predicted, the analyses presented in Tables 3 and 4 converge with the analyses presented in Table 2. The relationship of other social services, in this case CFS to fire and CFS to EMS follows the same strong predictive pattern as the CFS to police. It appears that use of public assistance is an indicator of use of other social services and the predictive value is high and significant.

Pearson's r , evaluated in Table 1, provides strong statistical support for the third question. The regression model in Table 2 indicates that two-thirds of the movement in CFS to police is explained by use of public assistance and the relationship is positive. The use of public assistance is an excellent predictor of minority utilization in the remaining three social services (police—Table 2, fire—Table 3, and EMS—Table 4).

Table 2 shows a positive slope that is supported by the regression model which indicates a high predictive value between the use of public assistance and CFS to police. This model yields a positive slope with a high level of significance.

CONCLUSION

At the beginning of this paper, there was a brief review of the literature that indicated two major schools of thoughts regarding disproportionate police contact. The first was

that the police are racist and are the enforcement arm of the economic and political elite. The second line of thought portrayed minorities as committing most of society's crimes, and the police as simply responding to differential criminality levels.

This research brought out a third possibility in explaining the disproportionate minority contact with the police. Census data provided demographic information for each census tract in the City of Houston, and an overlay of calls for service and other service variables allowed for direct comparison. Consistent with contemporary views of policing as a social service, the data revealed that police service utilization rates vary systematically with utilization rates of other services.

The data analysis confirmed that communities with a higher percentage of minorities tend to call the police, fire, and EMS for assistance at a greater rate than communities with a lower percentage of minorities. This research suggests that police services should be viewed as being "pulled" into communities in much the same manner as other services, as opposed to being foisted on an unwilling citizenry.

As indicated earlier, police departments allocate resources based on calls for service, which means more police officers are assigned to minority neighborhoods because of their higher utilization of police services (calls for service). By extension, the police make a disproportionate amount of minority contacts because those neighborhoods pull the resources of the police departments in as a social service at the same rate as they need other social services. The research supports the premise that disproportionate minority contact by police is a social phenomenon that is similar to high minority utilization of other social services.

LIMITATIONS

Caution should be exercised in attempting to generalize these findings in time and place. The data relate to one city in one state for one year. Importantly, the data also pertain only to one type of law enforcement agency, namely, a municipal police department. The activities of, say, a highway patrol department are sufficiently different from the activities of a municipal police department as to render extension of these findings to such an agency imprudent.

Although the variables pertaining to calls for service are seemingly solid insofar as they fairly accurately reflect the phenomenon, the public assistance variable may be less useful. The categorical nature of the variable, combined with its self-report nature render it less than optimal. Knowing more specifically what types of public assistance and in what amounts would be useful. Moreover, information about accessing specific other social services (i.e., involving social workers, mental health professionals, and the like) may be beneficial.

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APPENDIX A

DATA OVERVIEW ON MINORITY DENSITY AS IT RELATES TO RATES OF UTILIZATION

| Minority Density | Police | TopPolice | MinPolice | Fire | TopFire | MinFire |
|------------------|--------|-----------|-----------|------|---------|---------|
| 0-10 | 3198 | 13917 | 2 | 491 | 1742 | 0 |
| 11-20 | 4409 | 15667 | 1 | 984 | 9193 | 0 |
| 21-30 | 4536 | 105385 | 1 | 451 | 3308 | 0 |
| 31-40 | 4581 | 21097 | 1 | 634 | 2910 | 0 |
| 41-50 | 2973 | 9392 | 1 | 337 | 1216 | 0 |
| 51-60 | 4942 | 23719 | 3 | 634 | 2842 | 0 |
| 61-70 | 4613 | 15454 | 12 | 648 | 1668 | 0 |
| 71-80 | 4850 | 9156 | 106 | 717 | 1420 | 4 |
| 81-90 | 6977 | 15840 | 178 | 1013 | 1543 | 39 |
| 91-100 | 6139 | 10357 | 1914 | 1183 | 1646 | 305 |

| Minority Density | EMS | TopEMS | MinEMS | SS | TopSS | MinSS |
|------------------|------|--------|--------|-----|-------|-------|
| 0-10 | 472 | 1050 | 0 | 19 | 101 | 0 |
| 11-20 | 908 | 4955 | 0 | 31 | 120 | 0 |
| 21-30 | 659 | 2421 | 0 | 27 | 126 | 0 |
| 31-40 | 959 | 5121 | 0 | 55 | 168 | 0 |
| 41-50 | 511 | 1933 | 0 | 60 | 209 | 0 |
| 51-60 | 1084 | 5599 | 0 | 89 | 230 | 0 |
| 61-70 | 1025 | 2753 | 0 | 146 | 392 | 0 |
| 71-80 | 1175 | 2321 | 8 | 137 | 304 | 0 |
| 81-90 | 1808 | 3233 | 61 | 246 | 513 | 0 |
| 91-100 | 1897 | 2823 | 446 | 245 | 724 | 0 |