Allocation of Time and Hateful Behavior:

A Theoretical and Positive Analysis Of Hate and Hate Crimes

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ABSTRACT. This paper uses the rational-choice economic approach to analyze hateful behavior. The theoretical model predicts that hateful activity decreases with increases in (i) the market wage rate, (ii) the value of time, (iii) age, and (iv) law enforcement activity. The theory is tested on U.S. state hate crime data and the empirical results provide convincing support for the model. Three other factors (urbanization, low occupational status, and downward social mobility) thought to be causes of hateful activity are found not to be statistically significant determinants of hateful activity.

I

Introduction

MORE THAN ANYTHING ELSE, the twentieth century may be remembered as an era in which the brutality of mankind erupted more expansively than ever before. Hatred reached genocidal proportions in Germany, Turkey, Indonesia, Bangladesh, Burundi, Nigeria, Cambodia, and elsewhere. The last decade of the twentieth century has seen an upsurge in hate. In Bosnia and Kosovo the Serbians have been systematically attempting to eliminate (ethnically cleanse) all traces of other ethnic groups from their territory. In Rwanda the majority Hutu tribe massacred at least 500,000 members of the minority Tutsi tribe. The Muslims in Iraq attempted to exterminate the Kurd tribespeople by using biological and chemical weapons.

The United States during the twentieth century has been relatively immune from the destructive consequences of hate. While a troublesome problem today, however, hateful behavior has the potential to become a

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major social problem in the twenty-first century. America's future race/ethnic/minority relations will, to some extent, depend upon understanding the forces that transform hate into acts of violence.

A hate crime is defined as a crime directed against members of a particular group simply because of their membership in that group (U.S. Department of Justice, 1990). The basis for an attack may be a victim's race, ethnicity, religion, sexual orientation, or gender. The victim's individual personal characteristics (height, weight, hair color, etc.) are from the perpetrator's point of view irrelevant. All that matters is that the victim is perceived to be a member of the hated group.

Recent research suggests that hate crimes have certain characteristics that distinguish them from other types of violent acts (assaults, robbery, homicide). Hate-motivated assaults tend to be initiated by individuals who are unknown to their victims, whereas most assaults involve people who know each other well—friends, spouses, neighbors (Bureau of Justice Statistics, 1985). Another characteristic of hate crimes is they are much more likely than other crimes to entail personal violence and tend to be excessively brutal (Levin and McDevitt, 1993). In most property crimes something of value is taken; in a hate crime something of value is more likely to be damaged or destroyed (Berk, 1990). Most perpetrators of hate crimes, in contrast to other violent offenders, have no prior history of criminal behavior (Harry, 1990). Haters must expend considerably more time and expense than other violent offenders to perpetrate their crime. Haters do not know the victim, live outside the area of the victim, and typically commit the crime near the residence of the victim. Haters must go out of their way to search for the victims in unfamiliar areas (Flannery, 1997).

Various psychological and sociological theories of hatred have been proffered. Allport (1955) notes that hatred is an emotion of extreme dislike or aggressive impulses towards a person or group of persons. By its very nature hatred is extropunitive—the hater is sure the fault lies in the object of his hate. So long as the hater believes this, no guilt is felt. While hate does not necessarily lead to violence, it is part of the social and psychological processes that makes violence an acceptable form of behavior.

Fromm (1947) points out that it is essential to distinguish between two kinds of hate: "rational" and "character-conditioned." Rational hate arises when fundamental natural rights of persons are violated. One hates what-

ever threatens one's own or other's freedom, lives, and values. Character-conditioned hatred has little relation to reality. The hater carries a vague, temperamental sense of wrong which he wishes to polarize—he must hate something. The roots of the hatred are unclear, but the hater thinks up some convenient victim and a good reason to justify the hate. A hater chooses out-groups as the object of hate and aggression rather than individuals. A group is more abstract and impersonal. If the hater is convinced that a group is unworthy, subhuman, stupid, or immoral it helps justify sentiments of hate and hostility.

Pettigrew (1959) argues that hatred is due to conformity. Individuals conform to the social norms that exist within their sphere of socialization (friends, neighborhood, or work). The pressure to conform can be relatively overt or simply due to the unavailability of accurate evidence. In either situation it can induce or condone haters to engage in aggressive behavior.

Milgram (1974) argues that hate arises from the situation a person finds him- or herself in and not from a lack of values or character. This "obedience to authority" approach makes several claims. First, obedience rather than personal aggression lies at the heart of hate. Second, individuals are induced by the trappings of authority into performing hateful acts. Third, people who obey evil commands to commit hateful acts do so mainly because they are overwhelmed by the situation in which they find themselves.

Olzak and Nagel (1986) maintain that hate manifests itself when any minority group attempts to secure the same resources, such as jobs or housing, as the majority group. Hate is exacerbated by the expansion of the previously segregated minority group into the same labor and housing markets that the majority group is occupying.

Staub (1989) asserts that hate is a psychological manifestation. Individuals who hate have a poor self-image, are easily threatened, and have a constant need to enhance their ego. These characteristics set in motion the motivation to harm or reduce inhibitions against aggressive behavior. Diminishing others raises the hater's well-being. Harming others becomes a value in itself.

Goldhagen (1996) insists that a necessary condition for hate to exist in a society is for state policy to sanction, tolerate, or participate in such behavior. Goldhagen argues that the Holocaust would not have occurred if it were not for the fact that the most virulent haters were organized and mobilized by the

political leadership into a program of killing. The perpetrators, who degraded, tortured, and killed other people with zeal and enthusiasm, did so not only because they hated their victims but also because the state shared their belief that extermination was necessary and just.

One of the problems with these psychological and sociological explanations of hateful behavior is that, while they yield insights into the motivations of individuals, they do not provide useful theories of hate since they fail to generate empirically verifiable hypotheses.[1] Traditionally, economics has concentrated on the behavior of individuals in the monetary-market sector. The last three decades have seen economists increasingly extend the economic paradigm of individual rational-choice pioneered by Becker (1965), to nonmarket activities (e.g., fertility, suicide, marriage, crime) and produce a better understanding of such behavior.

This paper represents an effort to test the validity of the economic rational-choice approach to behavior as it applies to the phenomena of hateful activity. I examine the determinants of individual participation in hateful activities and empirically investigate the extent to which these factors contribute to hostile behavior towards various individuals or groups.

II

Theoretical Framework

THE ECONOMIC OR RATIONAL-CHOICE APPROACH assumes individuals maximize well-being (utility) as they conceive it. Their behavior is forward-looking and their preferences are stable over time. An individual's action is constrained by income, time, other limited resources, and the opportunities available in the marketplace.

For simplicity, it is assumed that an individual's utility (U) depends on the consumption of antisocial hateful behavior (H) and all other commodities which are combined into an aggregate good (Z).[2] The utility function becomes

$$U = U(H, Z). \qquad [1]$$

Goods H and Z are not perfect substitutes for each other in consumption and H is a more time-intensive consumption activity than Z. Hateful activity cannot be purchased in the market, but is self-produced using market goods and services and one's own time. Both commodities H and Z are produced using a vector of market goods x_i and a vector of its own

time t_i within the context of a vector of environmental variables E in which production takes place.[3]

$$H = h(x_h, t_h; E), \quad Z = z(x_z, t_z; E). \tag{2}$$

An individual's available time T is given by the time spent working, t_w, the time spent in producing H, t_h, and the time spent in producing Z, t_z, given by the constraint

$$T = t_w + t_h + t_z. \tag{3}$$

An individual's income constraint is given by the equation

$$wt_h + wt_z + p_h x_h + p_z x_z = M, \tag{4}$$

where w is the market wage rate, p_h and p_z are the price of the respective market-good input used in producing H and Z, and M is the individual's potential full income.

Maximizing the utility function (1) subject to the production function (2) and income (4) constraints yields the first-order condition.

$$\frac{\dfrac{dU}{dH}}{\dfrac{dU}{dZ}} = \frac{w\dfrac{dt_h}{dH} + p_h\dfrac{dx_h}{dH}}{w\dfrac{dt_z}{dZ} + p_z\dfrac{dx_z}{dZ}} \equiv \frac{MC_H}{MC_Z} \tag{5}$$

where the numerator (denominator) of the right-hand side of (5) represents the marginal cost (MC) of commodity H (commodity Z) given by the sum of the opportunity cost of time plus the cost of producing a unit of commodity H (commodity Z).

An increase in the value of an individual's time (w) would increase the marginal cost of both H and Z, but especially H which is relatively more time-intensive, leading to a decrease in its consumption. Thus, equation (5) implies an increase in an individual's market wage will lead to a decrease in hateful activity.

The value of market time in equation (5) changes at various points in a person's life cycle and these changes should induce substitution towards cheaper methods of production. At an early stage in the life cycle an individual's value of time is relatively low and the value of goods high. This

suggests that one should observe relatively more consumption of time-intensive modes such as hate activity when individuals are young.[4]

A change in an environmental variable is represented by E in equation (2). A change in E changes the amounts of goods and time required to produce a given amount of either H or Z. The effect of a change in E on MC_H is given by

$$\frac{dMC_H}{dE} = \frac{dt_h}{dH}\frac{dw}{dE} + w\frac{d^2t_h}{dEdH} + p_h\frac{d^2x_h}{dEdH}. \qquad [6]$$

An increase in an environmental variable, such as education, in equation (6) will raise (i) the market value of time $\left(\frac{dw}{dE} > 0\right)$ and (ii) the productivity of non-market consumption activity $\left(\frac{d^2t_h}{dEdH} < 0, \frac{d^2x_h}{dEdH} < 0\right)$ because education reduces the cost of producing H. Thus, the impact of an increase in education on the marginal cost of hateful behavior depends on whether the magnitude of the substitution effect away from hateful behavior is greater than, equal to, or less than the productivity effect towards more hateful activity.

If the environmental variable E in equation (6) refers to law enforcement activity, then a change in law enforcement will have no effect on the market value of time $\left(\frac{dw}{dE} = 0\right)$. However, it will increase the amount of time or goods required to produce a given amount of hateful activity $\left(\frac{d^2t_h}{dEdH} > 0, \frac{d^2x_h}{dEdH} > 0\right)$, thus increasing the marginal cost of hateful activity $\left(\frac{dMC_H}{dE} > 0\right)$ and discouraging its consumption.

In sum, the theoretical model of rational-choice predicts that hateful activity decreases with increases in (i) the market wage rate, (ii) the value of time, (iii) age, and (iv) law enforcement activity. The effect of education on hateful activity is ambiguous.

III

Empirical Model

TO TEST THE THEORETICAL IMPLICATIONS OF THE PREVIOUS SECTION the following equation was estimated[5]:

$$\text{Hate Crimes}_i = b_0 + b_1 \text{Wage}_i + b_2 \text{Unemployment}_i + b_3 \text{Unemployment}^2_i + b_4 \text{Age 15 - 19}_i + b_5 \text{Education}_i + b_6 \text{Law Enforcement}_i + b_7 \text{Religion}_i + b_8 \text{Ideology}_i$$

where the dependent variable is the number of hate crimes per 1,000 population in state i committed during the year 1995.[6]

The variable wage_i is the full-time hourly wage rate in state i. The higher the opportunity cost of a person's time in non-market activities, the lower the hate crime activity ($b_1<0$). The higher the unemployment rate in state i, the lower the opportunity cost of time for many persons, and the lower the marginal cost of engaging in hate activity ($b_2>0$). The unemployment rate is entered with a squared term to allow for diminishing marginal returns in time value; beyond some point increases in unemployment lower a person's time value by smaller and smaller increments ($b_3<0$). Age $15 - 19_i$ is the percentage of a state's population that is between the ages of 15 to 19 years old.[7] Individuals at the early stages of their life cycle tend to have a relatively low time value and concomitantly are more likely to engage in time-intensive hateful activity ($b_4>0$). Education is the percentage of state i's population 25 years or older that have at least a high school degree. Education increases both a person's market value of time and the productivity of non-market activity, thus its effect is ambiguous ($b_5=?$). The variable law enforcement is the number of full-time law enforcement officers per 10,000 population and its expected impact is negative ($b_6<0$).[8]

The remaining two independent variables are included to control for differential tastes across states. Durkheim (1951) contends that religious attitudes and beliefs are related to behavior. Religion, he argues, is able to deter unlawful or immoral behavior because its belief system legitimates social and individual values; its rituals reinforce commitments to these values; and its system of rewards and punishments ensure the embodiment of these values in actual behavior. The religion variable is the percentage of a state's population that are religious adherents and its expected impact is negative ($b_7<0$).

The other taste variable is a state's ideology. Ideology promotes shared

values and goals. Through such institutions as schools, government, and media, ideology helps shape individual attitudes and acceptable behavior (Staub, 1989). The ideology variable is Medoff's (1997) numerical measure of a state's liberal predisposition (from 0 = extremely conservative to 100 = extremely liberal) and its hypothesized impact is unclear (b_8=?).[9]

While the economic approach to behavior derives its theory based on individual choice, its implications are tested at the group or aggregate level. One might question the validity of making inferences about individual behavior from aggregate data. Social scientists have increasingly recognized that there are conditions in which individual behavior can be reasonably inferred from aggregate data. Grunfield and Griliches (1960) argue that individual data are subject to large errors compared to aggregate level data and that individual equations are more likely to be poorly specified than the aggregate equation. Hence a net gain will be realized using aggregate data rather than individual data. Zellner (1962) established that the use of data aggregated over individual units does not lead to aggregation bias if the parameters for each individual are all equal or if the distribution of each independent variable among the individuals is described by a stable linear function (e.g., the consumption function in Friedman's permanent income hypothesis model makes both assumptions). Aigner and Goldfield (1974) point out that if the aggregate variables are more important in determining the individual variables, there is a specification error in the individual relations which is larger than the aggregation error. They show that in this case the aggregate equation is superior to the individual equations. Hanushek, Jackson, and Kain (1974) note that social scientists are interested in the regularities in human behavior associated with the effects of various characteristics (e.g., the effect of income on consumption). They point out that since the objective of most empirical analysis is to determine the independent effects of some individual characteristics on the behavior of individuals possessing that characteristic, the use of aggregate data is appropriate. Irwin and Lichtman (1976) argue that aggregate data are of better quality than individual data. As a consequence estimates obtained from aggregate data will more accurately reflect individual behavior than estimates taken from a poorly specified and measured individual level equation. Firebaugh (1978) shows that the relations between variables for individuals can be correctly inferred from the relations between these variables for aggregates, provided

that the size of an independent variable has no effect on individual behavior. This suggests that aggregate hate crimes data can be used to empirically test the implications from the theory of individual hateful behavior.

IV

Empirical Results

EQUATION (7) WAS ESTIMATED USING ORDINARY LEAST SQUARES and the empirical results appear in Table 1, Column 1.[10] As hypothesized, a higher market wage rate has a statistically significantly negative impact on hateful activity. Hateful activity increases with unemployment, but at a decreasing rate. The lower value of time of the 15 to 19 year old age group results in a higher incidence of hateful crimes.

Law enforcement is found to have a statistically insignificant impact on deterring hateful consumption. The religion variable was negative but not statistically significantly different from zero. The result is consistent with the contention by some sociologists that religion plays no role in mitigating deviant behavior (Hirschi and Stark, 1969).[11]

The liberal ideology variable is statistically significantly positive suggesting that hate crimes are more likely to be committed in states where the population is liberally inclined. While this finding may seem perverse, it is consistent with the interpretation that liberal states, because they have more tolerant attitudes, have a lower search cost of identifying potential victims and hence a lower marginal cost of producing a unit of hateful activity.

The education variable is statistically significantly positive. This does not mean that a greater degree of knowledge is positively associated with greater intolerance. Rather, it suggests that hateful activity occurs proportionately more in states with a better educated populace (who may tend to have more tolerant [liberal] attitudes).

It is important to point out the meaning of the phrase "statistically significant" used above. It means that under the null hypothesis the probability of obtaining a Student's t value is <5 percent. Hence the conclusion must be either that the sample is extremely improbable or else, as in this paper, the null hypothesis that the partial regression coefficient b_i is not significantly different from zero is rejected. However, as noted by

Table 1

Hate Crimes Regressions*

Independent Variable	(1)	(2)	(3)	(4)
Constant	−12.9034	−13.2533	−14.4550	−12.9271
	(3.19)	(3.28)	(2.69)	(3.21)
Wage	−.3136	−.2591	−.2840	−.3428
	(3.48)	(2.57)	(2.52)	(3.68)
Unemployment	1.9862	1.9890	1.9934	1.9312
	(2.46)	(2.47)	(2.44)	(2.39)
Unemployment^2	−.1645	−.1629	−.1656	−.1560
	(2.25)	(2.24)	(2.24)	(2.14)
Age 15–24	.1762	.1617	.1761	.1766
	(2.13)	(1.95)	(2.11)	(2.15)
Education	.0994	.1047	.1025	.1043
	(3.43)	(3.59)	(3.40)	(3.58)
Law Enforcement	0.162	.0231	.0199	.0145
	(.64)	(.90)	(.75)	(.58)
Religion	−.0044	−.0016	.0038	−.0082
	(.40)	(.14)	(.34)	(.72)
Ideology	.0234	.0210	.0231	.0221
	(3.80)	(3.26)	(3.69)	(3.55)
Urbanization	...	−.0117	...	...
	...	(1.18)	...	...
% Blue Collar	...	...	.0177	...
	...	...	(.44)	...
Downward Mobility	...	...	...	−4.0732
				(1.15)
R^2	.49	.51	.50	.50

* Absolute value of t-statistics in parentheses.

McCloskey and Ziliak (1996), the overwhelming majority of economic papers fail to distinguish between statistical significance and economic (or numerical) significance. An estimated coefficient may be statistically significant but economically insignificant. As McCloskey and Ziliak point out, in order to discern the economic impact of a coefficient it would be more

appropriate to report the coefficient in terms of a confidence interval, in elasticity form, or in some other interpretable form. In this paper the interest is not in the economic significance of the coefficient, but rather in the implications of theory—that is, rejecting the null hypothesis of no association ($b_i = 0$) between an independent variable and the dependent variable.

V

Alternative Theories

SOME PSYCHOLOGISTS HAVE ARGUED that hatred is more apt to be prevalent in urban areas which have more social disorganization (Newman, 1979). In terms of equation (6), a change in the environmental variable urbanization would result in more hateful activity if urbanization lowered the market value of time $\left(\frac{dw}{dE} < 0\right)$ and/or lowered the amount of time or goods required to produce hateful activity $\left(\frac{d^2t_h}{dEdH} < 0, \frac{d^2x_h}{dEdH} < 0\right)$ possibly by reducing the search costs of finding a potential victim or by reducing the probability of criminal apprehension. This hypothesis is tested by adding the variable, the percentage of state i's population living in an urban area, to equation (7). The empirical results appear in Table 1, Column 2. The urbanization variable is negative (contrary to psychologists' contention), but not statistically significantly different from zero. Hateful activity is not found to be more prevalent in urban areas.

It also has been suggested that individuals at or near the bottom of the occupational classification are the ones most likely to resort to hate crime activity.[12] Equation (5) implies this is due to a lower market value of time. This hypothesis is tested by adding to equation (7) the variable of the percentage of workers employed in blue-collar occupations in state i. The empirical results appear in Table 1, Column 3. The blue-collar occupation coefficient was positive, but not statistically significantly different from zero. There is no difference in the degree of intolerance by occupational status.

Finally, it has been argued that hatred is a function of whether a person's social mobility is declining.[13] Social scientists typically measure social mobility by changes in an individual's occupational position. This argu-

ment suggests that as a result of a decline in social mobility an individual's value of time has decreased over time, lowering the marginal cost of hateful activity. This hypothesis is tested by adding to equation (7) the percentage change from 1980 to 1990 in the proportion of blue-collar workers in state i. The empirical results from Table 1, Column 4 shows the downward social mobility variable was negative (contrary to expectations), but not statistically significantly different from zero. Hate activities do not increase as a result of a downward change in the social position of individuals over time.

VI

Conclusion

THIS PAPER ANALYZES THE DETERMINANTS OF HATEFUL ACTIVITY using the economic or rational-choice approach to human behavior. A utility maximization model of individual allocation of time was developed. The model predicts that hateful activity decreases with increases in (i) the market wage rate, (ii) the value of time, (iii) age, and (iv) law enforcement activity. The effect of education on hateful activity is unclear.

The theory is tested using 1995 statewide data on hate crimes. The empirical results provide strong support for the model. Hate crimes are positively related to the unemployment rate, percentage of the population between ages 15 to 19 years, the extent of a state's liberal ideology, and the educational level. Hate crimes are negatively related to the market wage rate. Law enforcement efforts and religious belief did not have a statistically significant impact on hateful activity.

The empirical model is used to test other factors hypothesized by social scientists to be causes of hateful activity. All three factors — urbanization, low occupational status, and downward social mobility — are found not to be significant determinants of hateful activity.

Many implications follow from the theoretical and empirical results. First, as real wages increase over time, hateful activity should decrease as individuals shift towards less time-intensive forms of consumption. Second, if the unemployment rate rises over time, the opportunity cost of time falls for many people, leading to more consumption of the time-intensive hateful activity. Third, law enforcement efforts and appeals to spiritual beliefs will have little effect on hateful activity. Fourth, the empirical results

presented in the paper provide strong support for the rational-choice approach to behavior as it applies to hateful activity.

Notes

1. All research must assume a theoretical framework; a body of hypotheses bearing on the phenomena under investigation. If the research produces significant results, these validate to some degree the hypotheses which were initially assumed.

2. Halleck (1967) has argued that aggression may be a rational choice, given the situation in which the person finds himself. He observes that there are a number of sources of hate which may be solved by criminal and aggressive behavior such as feelings of powerlessness, external oppression, and persecution by others.

3. For ease of exposition x_i, t_i, and E are treated as scalars.

4. This suggests that senior citizens, because of their relatively low market value of time, should have a comparatively high incidence of hateful activity. The fact that this group has a low rate of criminal offenses can best be explained by their physical problems and limitations.

5. All the socioeconomic data came from the *Statistical Abstract of the United States: 1996* and the U.S. Bureau of the Census, *State Reports*. The data on hate crime came from the Federal Bureau of Investigation, *Uniform Crime Reports*. The religious data was from Quinn et. al., *Churches and Church Membership in the United States*.

6. It has been suggested that the hate crime statistics are measured inaccurately due to underreporting. There is, however, no evidence to suggest that any errors in reporting are systematically related to any of the independent variables in equation (7). To the extent that any underreporting errors are normally distributed across all states, the empirical estimates of the parameters will be unbiased but the degree of explanatory power will be lower.

7. The percentage of a state's population between the ages of 20 - 24 and 15 - 24 were each entered separately into equation (7). The empirical results were virtually identical to those reported in Table 1, Column 1, except that the coefficient of both age variables was numerically smaller than the Age 15 - 19 variable, as hypothesized.

8. One might argue that the size of the hated groups should be included as an independent variable in equation (7). This is incorrect for two reasons. First, this is a study of an individual's allocation of time between hateful and market activity, given hated groups. It is not a study of why some groups are hated. Second, the inclusion of the size of the hated groups as an explanatory variable is to suggest that the very presence of hated groups *causes* hateful activity.

9. The mean and standard deviation (in parentheses) for the variables in equation (7) are Wage: 14.356(1.835); Unemployment: 5.16(1.079); Age 15 - 19: 9.475(.994); Education: 76.266(5.496); Law Enforcement: 21.822(5.126); Religion: 54.737(12.759); Ideology: 48.478(20.068).

10. A Breusch-Pagan test indicated that the null hypothesis of homoscedasticity could not be rejected.

11. One might argue that religious affiliation is not a valid measure of religious conviction. In order to analyze the association between religious conviction and hateful behavior the percentage of Christian Fundamentalists, Catholics, and Jews in state i were each entered separately into equation (7). In all three cases the religion variable was not statistically significant and the other variables were virtually identical to those reported in Table 1, Column 1.

12. Aronson (1992) asserts that an individual who is low on the socioeconomic hierarchy may need the presence of a downtrodden minority group in order to be able to feel superior to someone.

13. Bettelheim and Janowitz (1950) maintain that an individual is likely to experience a weakening of desire or ability to conform to society's demands as a result of downward social mobility. Downward mobility is positively associated with aggressive attitudes, intolerance, and increased hostility.

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