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ABSTRACT In a study of the relationships between school racial composition and intergroup hostility in 123 desegregated elementary schools, four measures of racial hostility were considered: (1) white attitudes toward desegregation; (2) whites' friendliness toward blacks as perceived by blacks; (3) white attitudes toward voluntary social interaction with blacks; and (4) teacher estimates of the level of intergroup conflict in the school. The results indicated significant nonlinear relationships between the black percentage of white hostility, but did not show black percentage as significant predictor of white attitudes toward contact with blacks. It was found also that maximum hostility occurs in schools between 40 percent to 60 percent black. In conclusion, it was suggested that the hostility of white students toward blacks might best be minimized by placing white students in predominantly white schools or in predominantly black schools. (JCD)

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THE CONTROL THREAT IN DESEGREGATED SCHOOLS:  
EXPLORING THE RELATIONSHIP BETWEEN SCHOOL RACIAL  
COMPOSITION AND INTERGROUP HOSTILITY

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• ABSTRACT

Previous studies indicate that Whites are more hostile toward Blacks in settings where the percentage of Blacks is higher. Usually, the influence drawn from such studies is that the Black percentage is seen by Whites as a threat to their control of desegregated settings. In a secondary analysis of data collected for an evaluation of the Emergency School Aid Act, this research explores the relationship between the school Black percentage and White students' hostility toward Blacks, using a nationwide sample of desegregated elementary schools. White students appear to be most hostile toward Blacks in schools between 40% and 60% Black. That is, Whites seem most hostile when neither racial group is clearly in control of the school. This relationship holds up under controls for contextual variables which represent constructs other than the control threat to Whites, namely, the status threat posed by Blacks (school SES), the likelihood that racially separate friendship networks will develop (school size), and the strength of traditional norms favoring racial prejudice and discrimination (ruralism, region, and sub-region of the South). The implications of these findings for theory and policy are discussed.

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Author: Douglas Longshore

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INTRODUCTION

Research in American race relations indicates that Whites are more hostile toward Blacks in settings where the percentage of Blacks is higher. This generalization has emerged from studies of White electoral behavior in the South (e.g., Wasserman & Segal, 1973; Wright, 1977), studies of White resistance to school desegregation (e.g., Dye, 1968; Pettigrew & Cramer, 1959), studies of White flight from desegregated schools and neighborhoods (e.g., Giles, 1978; Pryor, 1971), and studies of the racial attitudes and sociometric choices of White students in desegregated schools (e.g., Fairchild, 1977; Shaw, 1973). For example, in cross-sectional studies of White opposition to Black voting (e.g., Matthews & Prothro, 1963), opposition has been stronger in Southern counties with a higher Black percentage. In longitudinal studies of White flight (e.g., Wegmann, 1975), the rate of White flight has increased as the percentage of Blacks in the school or neighborhood has increased over time.

Some of these studies have indicated that the relationship between the Black percentage and White hostility is not linear. Instead, at least two forms of nonlinearity have emerged. In the first form, White hostility has sharply intensified at some specific Black percentage. For example, in some studies of White opposition to Black voting (Matthews & Prothro, 1963, 1966; Price, 1957), White opposition has been much stronger in counties above a certain Black percentage. And in some studies of White flight (e.g., Duncan & Duncan, 1957), White flight has sharply accelerated among schools or neighborhoods past a certain Black percentage. This percentage has usually been located somewhere

between 20% to 40% Black. Figure 1 is a schematic representation of this J-curve form of nonlinearity.

The second form of nonlinearity appeared in a study of White students' hostility toward Blacks in desegregated schools (Bullock, 1976). In this study, White hostility increased as the Black percentage approached 51-60% Black but then decreased past that point. Figure 2 is a schematic representation of this inverted-U form of nonlinearity. (Since, in this form, White hostility in majority-Black schools is higher than it is in majority-White schools, the linear relationship between the Black percentage and White hostility is still positive).

To explain the positive relationship between the Black percentage and White hostility, most scholars have argued that Whites perceive a greater threat to their control in desegregated settings where the percentage of Blacks is higher. That is, the Black percentage is taken as a proxy for a specific explanatory construct -- the perceived threat to White control. "Control," as conceptualized in most studies, is the ability of one racial group to regulate the behavior or choices of another racial group.<sup>1</sup> According to previous research (e.g., Rose, 1972; Drake & Cayton, 1945), Whites assess their control on the basis of indicators such as: which group regulates access to certain facilities and activities (e.g., bars and playgrounds), which group's candidates or interests most often prevail in elections, and which group's cultural values seem pre-eminent in the setting (e.g., types of food served in restaurants and types of music played in the school cafeteria).

Each form of nonlinearity has been posited as a special case of Whites' response to the control threat posed by Blacks (e.g., by Bullock, 1976; Downs, 1970; Kerckhoff, 1957; McDermott & Clark, 1955). To explain a sharp upswing in

White hostility, some scholars have argued that in settings between 20% to 40% Black many Whites believe that Blacks are starting to take over. Consequently, Whites step up their own efforts to control the setting, or they rapidly abandon it. On the other hand, to explain the decline in White hostility past 50% Black, Bullock (1976) argued that White hostility is highest when control of the setting is in dispute. In settings past 50-60% Black, control is clearly held by Blacks, and most Whites resign themselves to that fact.

In summary, the Black percentage is said to operate as a salient contextual characteristic of desegregated settings, representing a control threat to Whites. Thus, in settings where the Black percentage is higher, White hostility toward Blacks is higher. Sometimes the relationship between the Black percentage and White hostility takes one of two nonlinear forms. In either case, the preferred explanation centers on the concept of a control threat in desegregated settings.<sup>2</sup>

The research reported here focuses on the relationship between the Black percentage and White students' hostility toward Blacks in desegregated schools, with particular attention to the possibility of nonlinearity in that relationship. The rationale for this research is that, despite the consistently positive relationship between the Black percentage and various indicators of White hostility, the causal significance of the Black percentage is not convincingly supported in previous studies.<sup>3</sup> This research explores the causal significance of the Black percentage in two ways. First, it examines the relationship between the Black percentage and White hostility, with controls for contextual variables that represent constructs other than the control threat to Whites. Second, it determines whether the control threat becomes more and more salient to Whites past 50% Black or peaks at 50% Black and then declines.



Details regarding the background for, and design of, this research are described below.

### BACKGROUND

Some studies have reported the relationship between the Black percentage and White hostility and the occurrence of nonlinearity in that relationship as more than just empirically derived generalizations. In both scholarly and popular accounts, these generalizations have sometimes been described explicitly as "laws" of human behavior. Drawing on earlier work by Williams (1947), Allport observed that White hostility is most intense when the "Negro density" is highest and characterized that relationship as a "sociocultural law". (Allport, 1958: 220-221). More recently, Ehrlich posited a "principle of visibility" in race relations. (Ehrlich, 1973: 77), whereby increases in the visibility of a racial/ethnic group produce greater social distance between it and other groups. The relative size of the group was said to be one determinant of its visibility.

Likewise, nonlinearity (more specifically, the J-curve form) in the relationship between the Black percentage and White hostility has been described as an inevitable consequence of desegregation when the percentage of Blacks exceeds a certain point. Downs (1970) has described Whites' preference for majority-White schools and neighborhoods as the "law of dominance."

"A vast majority of whites ... would be willing to send their children to integrated schools or live in integrated neighborhoods, as long as they were sure that [Whites] would remain in the majority.... These whites ... want to be sure that the social, cultural, and economic milieu and values of their own group dominate their ... environment" (Downs, 1970: 34; emphasis his).

Struck by the implications of such definitive claims, policy-makers, have urged the use of racial quotas in desegregated settings -- usually somewhere between 15% and 50% Black. For example, to attract White Buyers, a housing development in Philadelphia set a quota of 45% Black when the development opened in the 1950's (Grier & Grier, 1960). Policy-makers have recommended racial quotas for desegregated schools as well, both to avoid triggering an acceleration in White flight and to avoid intensifying White students' hostility toward Blacks. Giles et al. (1975) suggested a quota of 30% Black to avoid an acceleration in White flight from desegregated schools.

"Setting racial quotas may be an unsavory policy for some, but our findings suggest that it would be a rational policy from the standpoint of minimizing resegregation and producing stable desegregation" (Giles et al., 1975: 92).

And St. John has recommended that school enrollments be kept under 40% Black, not to preclude an acceleration in White flight but to preclude an intensification in White students' racial hostility. She argued that a Black enrollment over 40% Black would pose a "power threat" to Whites. (St. John, 1975: 100).

Actually, claims regarding the causal significance of the Black percentage and the racial quotas based on such claims seem premature, for the causal link between the Black percentage and White hostility has not been convincingly supported and delineated in previous studies. This assertion is based on two points. First, it is not at all clear that the Black percentage accounts for any unique portion of the variance in White hostility after other contextual variables are controlled. For example, the Black percentage and White hostility are both usually higher in settings that are Southern, rural, and low in aggregated

socio-economic status (SES). Thus, region, ruralism, or SES could account for the positive relationship between the Black percentage and White hostility or for the occurrence of nonlinearity in that relationship. Some previous studies have, in fact, assessed the influence of other contextual variables, taken one or two at a time, on the relationship between the Black percentage and White hostility. But no study has assessed the simultaneous influence of several such variables on that relationship.

Moreover, contextual variables that could account for the relationship between the Black percentage and White hostility apparently represent constructs other than the perceived threat to White control. Region and ruralism appear to represent the strength of traditional norms regarding racial prejudice and discrimination (e.g., Giles, 1977; Wright, 1976). SES (e.g., median county educational level) appears to represent the status threat which Blacks pose for Whites in desegregated settings (e.g., Thomas, 1979). Thus, controls for such variables will not just indicate whether or not the Black percentage itself accounts for any variation in White hostility. Controls for such variables will also clarify the causal significance of the Black percentage because they would remove the variation associated with variables that do not represent a control threat to Whites.<sup>4</sup>

Second, racial quotas ranging from 14% Black to 50% Black have been recommended and implemented in many desegregated settings. Most of these quotas are intended to preclude an acceleration in White flight, but in at least one case a 40% Black quota was recommended specifically to avoid an intensification in White students' hostility toward Blacks (St. John, 1975). It is not clear, however, that the relationship between the Black percentage and White students'

hostility can be expected to accelerate across the full range of the Black percentage. Most examples of nonlinearity in White hostility show the J-curve form, that is, the form in which White hostility accelerates. But the only available example of nonlinearity in White students' hostility shows the inverted-U form, i.e., White hostility peaks near 50% Black and then declines. In other words, it is not clear that the J-curve form of nonlinearity, on which the policy of racial quotas has been based, is in fact applicable to White students' hostility in desegregated schools. If nonlinearity emerges in the inverted-U form, a reconsideration of policies regarding racial quotas to minimize White students' hostility would be in order.

#### RESEARCH DESIGN

This research constitutes a secondary analysis of data collected in 1978-79 as part of an evaluation of the Emergency School Aid Act. The evaluation covered 123 desegregated elementary schools in all parts of the country. The data set for this evaluation includes six contextual variables:

- the school Black percentage;
- school SES (a composite of school means for students' verbal and math achievement, school means for parents' educational level, and school rates of eligibility for free or reduced-price school lunch services);
- school size;
- ruralism (district size)
- region (a dummy variable for South vs. non-South); and
- sub-region of the South (a dummy variable for deep South vs. upper South).

The data set also includes three measures of White hostility toward Blacks:

- Whites' attitudes toward desegregation (a six-item scale measuring Whites' willingness to attend desegregated schools and their perceptions of the value of desegregated education);
- Whites' friendliness toward Blacks, as perceived by Blacks (a two-item scale asking Black students to assess how easy it is to make friends with Whites in the school); and
- Whites' attitudes toward contact with Blacks (a three-item scale asking White students to predict their friends' reactions to contact with Blacks in voluntary social interaction).

Finally, the data set includes one measure of racial hostility that is not specifically White hostility: the teachers' estimate of the level of intergroup conflict in the school. Responses from White students (for attitudes toward desegregation and attitudes toward contact), from Black students (for friendliness), and from teachers (for intergroup conflict) were aggregated to produce a mean on each measure for each school.

Since the questionnaire by which students' responses were obtained was designed to assess intergroup relations at the school level, items on the questionnaire did not specifically call for students' attitudes and behavior toward Whites, Blacks, Hispanics, and other groups. The items simply asked for students' attitudes and behavior toward "students of the same race or ethnic group as you" and toward "students of a different race or ethnic group than you." However, in 89 of the 123 schools, Whites and Blacks comprised at least 90% of the total enrollment. For these 89 schools, it is reasonable to assume that (1) Whites' intergroup experiences at school are essentially experiences with Blacks, and (2) when items ask about relations with "students of a different race or ethnic group than you," Whites' responses pertain specifically to Blacks, and vice versa. Accordingly, these 89 schools provide the data set for this research.<sup>5</sup>

## FINDINGS

The first step in this analysis was to identify the bivariate relationships between the Black percentage and White hostility and between the Black percentage and intergroup conflict. Equation 1 in Table 1 lists, for each relationship, the simple regression coefficients for the Black percentage and the amount of variance for which the Black percentage accounts. Equation 2 in Table 1 adds the quadratic term (the squared Black percentage) and records the variance accounted for by both terms.<sup>6</sup> If the linear and quadratic terms are both positive, then the relationship between the Black percentage and racial hostility would appear in the J-curve form. If the linear term is positive and the quadratic term is negative, then that relationship would appear in the inverted-U form.

Turning to Equation 1, the findings indicate that the Black percentage is significantly and linearly related to Whites' friendliness toward Blacks and to Whites' attitudes toward contact with Blacks. Equation 2 indicates that the Black percentage is significantly and nonlinearly related to Whites' attitudes toward desegregation, Whites' friendliness toward Blacks, and intergroup conflict. The signs for each quadratic term are negative, indicating that the relationship follows the inverted-U form, i.e., it first increases and subsequently decreases. The  $R^2$ 's indicate that the nonlinear predictions provide a better fit to the data, even for Whites' friendliness toward Blacks (for which the linear term alone was also significant).

Discussion of these findings is deferred for the moment, since (as noted above) other contextual variables could account for the findings. The next step in the analysis was, accordingly, to enter the other contextual

variables into these equations and see what unique contribution is made by the Black percentage. An examination of zero-order correlations among the contextual variables available for this research (Table 2) found the expected relationships between the Black percentage and school SES (negative), region (positive), and sub-region (positive). Unexpectedly, the school Black percentage was not related as expected (i.e., positively) to ruralism. The significant relationships were not high enough to suggest the danger of multi-collinearity in the regression equations. But there is an obvious linear dependence between region and sub-region (correlations not shown). Thus, for equations in this analysis, region and sub-region were combined into a single variable, South, with three values: (0) non-South, (1) upper South, and (2) deep South.

Equations 1 and 2 in Table 3 present the results of an analysis in which the Black percentage (linear term in equation 1; linear plus quadratic in equation 2), school SES, South, school size, and ruralism are used as predictors of White hostility and intergroup conflict. The Black percentage no longer contributes to the prediction of Whites' attitudes toward contact, but it does contribute significantly to the prediction of Whites' attitudes toward desegregation, Whites' friendliness toward Blacks, and intergroup conflict. The unique relationship between the Black percentage and these variables remains nonlinear, in the inverted-U form. (The quadratic term for Whites' friendliness is only marginally significant, but it does clarify the relationship between the Black percentage and Whites' friendliness, as indicated by the improved  $R^2$  in equation 2.)<sup>7</sup> See Figures 3 to 5.

At this juncture, two findings can be highlighted. First, the inverted-U form of nonlinearity, rather than the J-curve form, has clearly emerged here.

Whites' attitudes toward desegregation become more hostile as the school Black percentage increases to 41%, and then they become less hostile as the Black percentage increases further. Whites become less friendly toward Blacks as the Black percentage increases to 57%, and then they become more friendly as the Black percentage increases further. In other words, Whites' attitudes toward desegregation are least favorable when their control of the school is tenuous. But Whites seem least friendly toward Blacks when control of the school is held, tenuously, by Blacks. The point of greatest intergroup conflict was 44% Black. This variable, as already noted, is not specifically a measure of White hostility. But it does suggest that intergroup hostility, like Whites' attitudes toward desegregation, is at its worst when White control of the school is tenuous.

Second, while the nonlinear trends for these variables are statistically significant, there is not a lot of variation in the relationship between the Black percentage and White hostility or between the Black percentage and intergroup conflict. Fluctuation in each measure, across the full range of the Black percentage, is rather

Analyses within contextual subsets of schools (e.g., low-SES schools, Southern schools) may shed more light on these findings. Analyses of school subsets were prompted by both empirical and theoretical questions. First, some previous studies have uncovered interactive relationships between the Black percentage and other contextual variables. The Black percentage has had a stronger relationship to White hostility in schools with a lower aggregate SES (Thomas, 1979), settings in the South (Giles, 1977), settings in the upper South (e.g., Wright, 1977; Knoke & Kyriazis, 1977; Wrinkle & Polincard, 1973),

schools that are larger (Fairchild, 1977), and settings that are more rural (e.g., Wright, 1976; Pettigrew, 1957). These findings prompt a particular empirical question: Is the Black percentage a stronger predictor of White students' hostility toward Blacks in schools that are low in SES, located in the South, located in the upper South, larger, or located in rural areas? Second, the theoretical questions which can be addressed here arise from the substantive meaning of these contextual variables. More specifically, the interaction between the Black percentage and aggregate SES prompts this question: Is the control threat more salient to Whites in schools where Blacks also pose a status threat to Whites? The interaction between the Black percentage and region, sub-region, and ruralism prompts another question: Is the control threat more salient to Whites in schools where traditional norms favoring racial prejudice and discrimination are stronger?<sup>8</sup> SES, school size, and ruralism (district size) were dichotomized at their means, producing sets of low-SES schools, high-SES schools, small schools, large schools, rural schools, and urban schools. The two other contextual variables, region and sub-region, produced sets of Southern schools, non-Southern schools, deep-South schools, and upper-South schools.

The results of analyses within these subsets will simply be summarized here. First, significant relationships again emerged for Whites' attitudes toward desegregation, Whites' friendliness toward Blacks, and intergroup conflict, but not for Whites' attitudes toward contact with Blacks. The pattern in these relationships indicates that the Black percentage is a stronger predictor of White hostility in low-SES schools than in high-SES schools, stronger in large schools

than in small schools, stronger in rural districts than in urban districts, stronger in Southern schools than in non-Southern schools, and stronger in deep-South schools than in upper-South schools.<sup>9</sup> Each of these differences is consistent with previous research, except for the difference between deep-South and upper-South schools. Apparently, White students in the deep South are responsive to variability in the Black percentage, perhaps more responsive than Whites in the upper South. (See footnote 8.)

Second, the fluctuation in White hostility was wider (i.e., the regression weights were larger) in contexts where the Black percentage was more salient. In other words, the Black percentage has considerable predictive power in certain contexts. Its predictive power was greatest for Whites' attitudes toward desegregation in the deep South. See Figure 6.

Third, the significant relationships in these contexts were consistently nonlinear in the inverted-U form. In no case did nonlinearity emerge in the J-curve form. This pattern strongly suggests that the Black percentage is most salient to Whites when control is not clearly held by one or the other racial group. The fact that this pattern emerged both in intergroup conflict and in White hostility is particularly convincing, since the measures for these variables were based on different respondents and different item formats.

Fourth, points of greatest hostility in the contextual subsets were always between 40% to 50% Black for Whites' attitudes toward desegregation and were always between 50% to 60% Black for Whites' friendliness toward Blacks. (For intergroup conflict, the point of greatest hostility was once below 50% Black and twice above 50% Black.) It is hard to know what to make of these patterns. But the fact that one of the measures of White hostility concerns Whites' attitudes and the other concerns Whites' behavior suggests that Whites'

attitudes and behavior toward Blacks "respond" a bit differently to the Black percentage. Perhaps Whites are least favorable to desegregation when they feel that their control of the school is quite tenuous. But Whites' actual behavior toward Blacks is least friendly when Whites are just barely outnumbered by Blacks, i.e., when Whites are barely not in control. This speculation goes beyond the data, of course. But more generally, the key finding here seems to be the occurrence of maximal hostility in schools between 40% to 60% Black. Notably, the greater salience of the Black percentage in some contexts did not "move" the point of greatest hostility to a lower Black percentage or sustain hostility at its maximum across a wider Black-percentage range. Relationships between the Black percentage and White hostility in these contexts were more pronounced, but they appeared in the same essential form as they did in the full set of schools (as a comparison of Figures 3 and 6 indicates).

Finally, the Black percentage was not a significant predictor of Whites' attitudes toward contact with Blacks in any of these contexts. Perhaps Whites in schools with a higher Black percentage recognize that it is hard to avoid contact with Blacks and are therefore not more likely to disapprove of friends whom they see in the proximity of Blacks. The fact that the Black percentage is correlated with school SES and with South appears, in this case, to account for the significant bivariate relationship (in Table 1) between the Black percentage and Whites' attitudes toward contact with Blacks.

## CONCLUSIONS

The emergence of consistently significant relationships between the Black percentage and White hostility suggests that the Black percentage is in fact a salient contextual characteristic in desegregated schools. This relationship held up under controls for contextual variables that represent constructs other than the control threat to Whites, suggesting further that White hostility is in part a response to the control threat posed by the Black percentage. White students' respond to this threat most clearly in low-SES schools, large schools, rural schools, Southern schools, and deep-South schools. It should be emphasized that the control threat is, of course, Whites' perception of a threat -- a perception that can exist whether or not Blacks in the school actually operate as a unitary bloc or intend to "take over." An interesting topic for further research would, in fact, be the converse of this topic: How do Blacks perceive and respond to the control threat posed by Whites in desegregated schools?

Regarding racial quotas to minimize White hostility, the form of these relationships between the Black percentage and White hostility suggests that maximum Black quotas will not minimize White hostility. White hostility is relatively high in schools between 40% to 60% Black. But Whites in majority-Black schools are not necessarily more hostile toward Blacks than Whites in majority-White schools. Thus, considering only the purpose of minimizing White hostility, it may be advisable to avoid placing Whites in racially balanced schools. But Whites can perhaps be placed in schools where Blacks predominate, without intensifying their hostility toward Blacks beyond the level that exists in schools where Whites predominate. There are, of course, other factors to

be considered in establishing school racial composition, e.g., the effect of racial proportions on White flight and on norms related to academic achievement and the equitability of burdens imposed on each race in desegregation plans (such as travel time to and from school). Policy-makers must surely consider such factors in developing the parameters of viable desegregation plans. But this research suggests that the purpose of minimizing White students' hostility toward Blacks might best be served by placing White students in predominantly White schools or in predominantly Black schools.

## FOOTNOTES

1. This definition of control closely parallels Cohen's (1980) definition of power in desegregated schools. It also parallels Schermerhorn's (1956) broader definition of power in intergroup relations:

"the asymmetrical relationship between two [groups] in which a perceptible probability of decision resides in one of the two [groups], even over the resistance of the other [group]" (Schermerhorn, 1956: 54).

2. White electoral behavior, White resistance to school desegregation, White flight, and White students' racial attitudes and sociometric choices are certainly not "pure" indicators of White hostility, since they are affected by non-racial variables (e.g., class prejudice and the financial ability of Whites to move). But this research, like previous research, assumes that White electoral behavior, White resistance to school desegregation, and the like, capture at least a good part of the variation in the underlying construct, White hostility, and are therefore useful as indicators of White hostility.
3. The causal significance of a variable is perhaps most clearly established through an experimental design. This research is not intended to demonstrate the causal significance of the Black percentage. Rather, it is intended to explore the viability of the inference that the Black percentage is causally related to White hostility because it represents a control threat to Whites.
4. The Black percentage does not represent purely the threat to White control. As Bullock (1967) has observed, when Whites believe that Blacks are competing with them for jobs, the Black percentage can represent an economic threat to Whites. And even when the Black percentage more clearly represents a control threat to Whites (e.g., in electoral politics), the Black percentage is linked empirically with variables like region and aggregate SES, which suggests that the Black percentage also represents, to some extent, the constructs for which these other variables are proxies. In short, the Black percentage is part of a nexus of contextual conditions that are conceptually distinct but empirically tangled. However, this analysis, by focusing on a setting (desegregated schools) in which the Black percentage represents primarily a control threat (e.g., Cohen, 1980; Bullock, 1976) and by removing the variation which the Black percentage shares with these other variables, effectively isolates that part of the variation in the Black percentage which most clearly represents the control threat.
5. In 62 of the Black/White schools, non-Black minority students were also present. However, the percentage of Black or White students well exceeded the percentage of non-Black minority students in all of these schools. For instance, in two of the Black/White schools, Hispanics comprised 9% of the enrollment. But Blacks or Whites comprised at least 24% of the enrollment in those two schools. Thus, even schools where non-Black minority students are enrolled are essentially Black/White schools.

6. Kerlinger & Pedhazur (1973) suggest the use of t-tests or F-tests in calculating the statistical significance of linear terms in regression equations. They suggest using F-tests to assess statistical significance (increment in  $R^2$ ) when quadratic terms are added to such equations. These suggestions are followed here. For equations with a linear term only, t-tests are used. Since previous studies clearly support the prediction of a positive relationship between the Black percentage and White hostility, one-tailed tests of significance are used for the three measures of White hostility. A two-tailed test is used for the measure of intergroup conflict. For equations with both linear and quadratic terms, F-tests are used to assess the statistical significance of each term. (F-tests do not assume directionality.) Since collinearity between the linear and quadratic terms ( $r = .959$ ) could obscure the statistical significance of the Black percentage in the nonlinear regressions, F-tests are also used to assess the statistical significance of the increment in  $R^2$  accounted for by the linear and quadratic terms combined.
7. The relationships between other contextual variables and White hostility are not of primary concern here. But, as predicted, White hostility is greater in schools that are low in SES, schools that are more "Southern," and schools that are more rural. School size was not related to any measure of White hostility or to intergroup conflict.
8. Traditional racial norms are probably stronger in the deep South than in the upper South. Yet, the Black percentage has more predictive power in the upper South. Previous research (e.g., Wright, 1977) suggests that this is because Whites in the deep South do not notice and respond to variability in the Black percentage as much as upper-South Whites do. That is, White hostility is more uniformly high in the deep South, regardless of the Black percentage in the immediate context (e.g., school or county).
9. An examination of means and ranges for all contextual variables in each of these subsets of schools indicates that significant relationships in these subsets are not artifacts produced by some other contextual variable. For example, the significant relationships in low-SES schools are apparently not due to the fact that there are proportionately more low-SES schools in the South than outside the South.

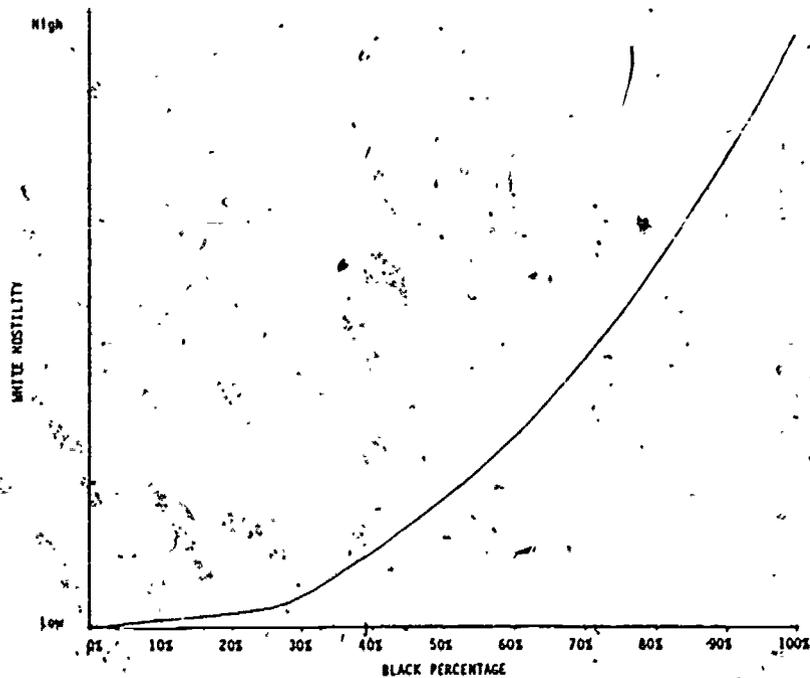


FIGURE 1: THE J-CURVE FORM OF NONLINEARITY IN THE RELATIONSHIP BETWEEN THE BLACK PERCENTAGE AND WHITE HOSTILITY

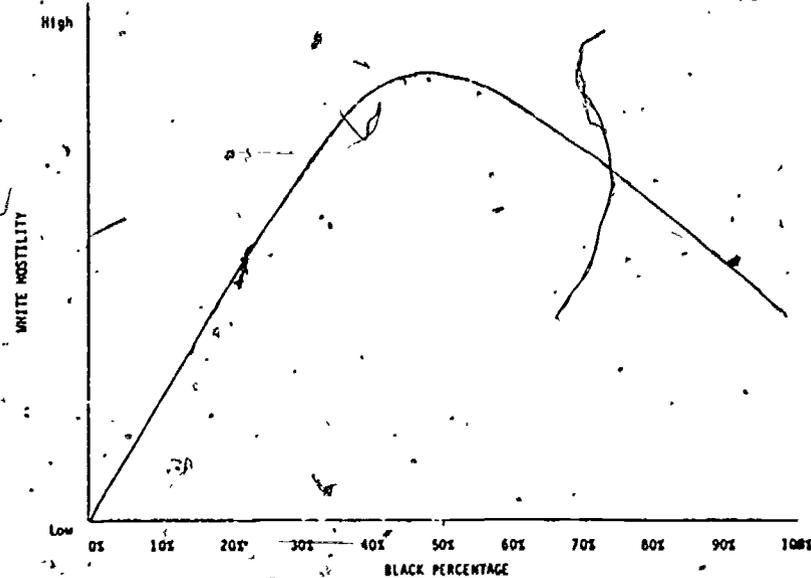


FIGURE 2: THE INVERTED-U FORM OF NONLINEARITY IN THE RELATIONSHIP BETWEEN THE BLACK PERCENTAGE AND WHITE HOSTILITY

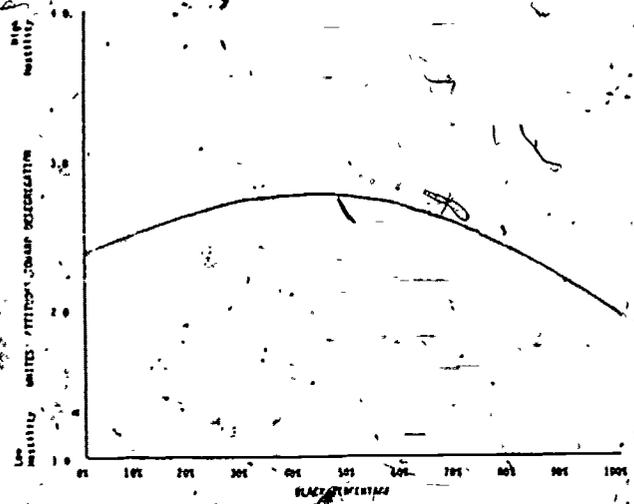


FIGURE 3: UNIQUE RELATIONSHIP BETWEEN THE BLACK PERCENTAGE AND WHITES' ATTITUDES TOWARD DESEGREGATION

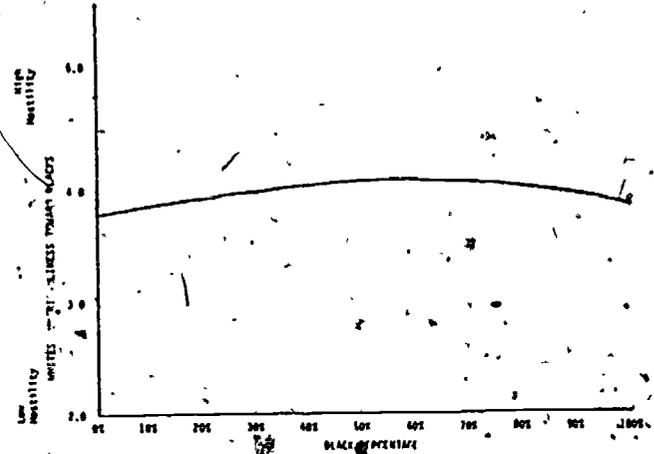


FIGURE 4: UNIQUE RELATIONSHIP BETWEEN THE BLACK PERCENTAGE AND WHITES' OPEN-MINDEDNESS TOWARD BLACKS

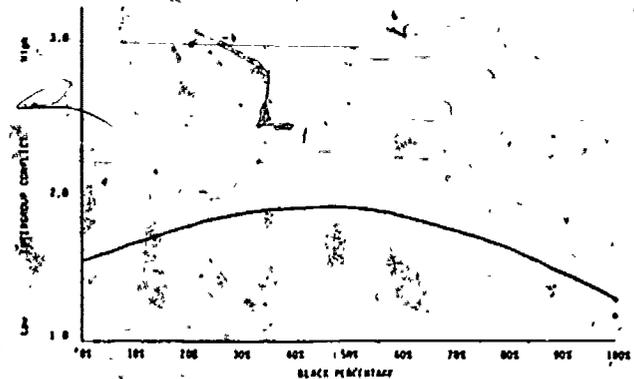


FIGURE 5: UNIQUE RELATIONSHIP BETWEEN THE BLACK PERCENTAGE AND WHITES' ATTITUDES TOWARD CONFLICT

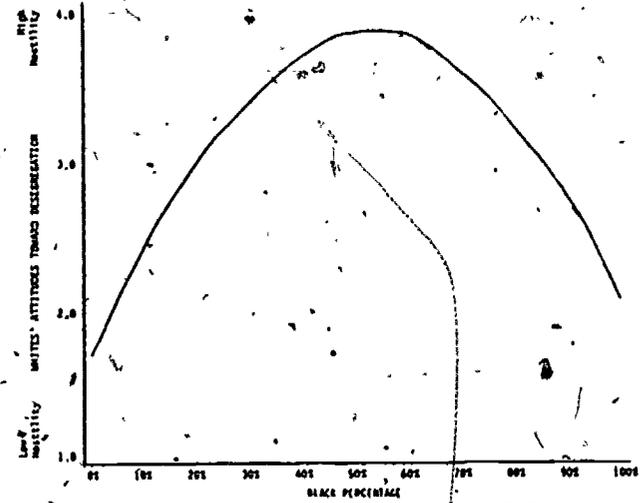


FIGURE 6: UNIQUE RELATIONSHIP BETWEEN THE BLACK PERCENTAGE AND WHITES' ATTITUDES TOWARD DESEGREGATION IN THE DEEP SOUTH

TABLE 1  
REGRESSION OF WHITE HOSTILITY AND  
INTERGROUP CONFLICT ON THE SCHOOL BLACK PERCENTAGE

	<u>Attitudes Toward Desegregation</u>		<u>Friendliness Toward Blacks</u>		<u>Attitudes Toward Contact With Blacks</u>		<u>Intergroup Conflict</u>	
	Eq 1	Eq 2	Eq 1	Eq 2	Eq 1	Eq 2	Eq 1	Eq 2
Black Percentage	.221	4.015***	.303*	1.552**	.321*	.204	-.163	1.618**
Square Black Percentage	x	-4.214***	x	-1.320*	x	.130	x	-1.904**
R <sup>2</sup>	.004	.096	.039	.097	.031	.032	.008	.074
N	86	86	87	87	86	86	81	81

\*p<.05

\*\*p<.01

\*\*\*p<.005

x variation not in equation

TABLE 2  
CORRELATION MATRIX FOR CONTEXTUAL VARIABLES

	School SES	Region	Sub- Region	South	School Size	District Size
Black Percentage	-.464***	.130	.327*	.229*	.047	-.078
School SES		-.224*	-.412***	-.334***	-.095	.103
Region <sup>a</sup>			x	x	.130	.126
Sub- Region <sup>b</sup>				x	.067	.002
South <sup>c</sup>					.138	.112
School Size						.012

\*p < .05

\*\*\*p < .005

x: correlation not computed

<sup>a</sup> 0=Non-South 1=South

<sup>b</sup> 0=Upper South 1=Deep South

<sup>c</sup> 0=Non-South 1=Upper South 2=Deep South

TABLE 3

REGRESSION OF WHITE HOSTILITY AND  
INTERGROUP CONFLICT ON THE SCHOOL BLACK PERCENTAGE,  
SCHOOL SES, SOUTH, SCHOOL SIZE, AND DISTRICT SIZE

	Attitudes Toward Desegregation		Friendliness Toward Blacks		Attitudes Toward Contact With Blacks		Intergroup Conflict	
	Eq 1	Eq 2	Eq 1	Eq 2	Eq 1	Eq 2	Eq 1	Eq 2
Black Percentage	-.318	2.925*	.196	1.284*	-.027	-.562	-.082	1.834**
Square Black Percentage	x	-3.567*** <sup>a</sup>	x	-1.143 <sup>a</sup>	x	.594	x	-2.068**
School SES	-.069*	-.069*	-.013	-.013	-.039**	-.045**	-.006	-.007
South <sup>b</sup>	.205*	.174*	.038	.031	.149***	.154***	.063	-.071
School Size	-.0002	-.0001	-.0003	-.0002	-.0001	-.0001	-.00003	-.00007
District Size	-.000006**	-.000006**	-.000001	-.0000009	-.000002*	-.000002*	.000001	.000002
F-test for increment in R <sup>2</sup> accounted for by the Black percentage (linear plus quadratic terms)		F=7.67***		F=4.91**		F=2.44		F=5.83**
R <sup>2</sup>	.177***	.241***	.086	.127	.266***	.287***	.043	.116
N	86	86	86	86	86	86	81	81

\*p &lt; .05

\*\*p &lt; .01

\*\*\*p &lt; .005

<sup>a</sup>p < .1<sup>b</sup>0=Non-South 1=Upper South 2=Deep South

x variable not in equation

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