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In the 1976 Detroit Area Study respondents were asked a series of questions on school busing and the racial integration of schools. These questions may be set in the context of nearly a decade of controversy in the Detroit metropolitan area over the busing of school children, in which, following nation-wide sentiment, opposition to busing has overwhelmed support. During the same period, surveys have found equally strong support, both in Detroit and nation-wide, for the notion of integrated schools. In fact, the intense opposition to busing observed in the U.S. during the past decade has arisen during a period in which racial integration has become accepted in most public realms of U.S. society, including the schools (Sheatsley, 1966; Campbell, 1971; Greeley, 1971). The strength of the opposition to busing, and the anomaly of opposition to busing in the midst of a general liberalization of racial attitudes in the U.S. (if the evidence from the national surveys is believed) stimulates a number of questions which this paper will address: (1) Are support and opposition to school busing located in different sub-groups of the population than the sub-groups supporting and opposing school integration? That is, given that school busing is much less popular than the concept of school integration, do we still observe the differences in support or opposition by major sub-groups of the population--race, age, education sub-groups--which have been found in studies of racial attitudes in general, and in attitudes towards school integration in particular? The bulk of this paper is an examination of these questions. (2) What implications for the career of school busing as a public issue are suggested by these findings on the social location of its support and opposition? This question is considered briefly at the end of the paper.

An extensive literature explores the relationship of demographic characteristics to racial attitudes (Allport, 1962; Schwartz, 1967; Campbell and Schuman, 1968; Campbell, 1971; Pettigrew, 1971; Schuman and Hatchett, 1974). A smaller number of studies focus on attitudes towards school integration in particular (Schwartz, 1967; Greeley and Sheatsley, 1971; Pettigrew, 1971; Giles, et. al., 1976). Only a few studies have examined attitudes towards busing (Crain, 1968; Rubin, 1972; Kelley, 1974). This literature is limited to considerations of White racial attitudes almost exclusively; the literature on Black racial attitudes is scanty (Marx, 1967; Caplan and Paige, 1968; Paige, 1969; Edwards, 1972; Schuman and Hatchett, 1974) and primarily concerned with the correlates of Black militancy.

A number of strong relationships have emerged from this previous work. First, the results of all surveys which included White and Black respondents have confirmed significant differences in attitudes by <u>race</u>, with Blacks as a group more approving of racial integration--in the schools and elsewhere. Second, <u>age</u> of respondent has usually been found inversely related to liberal attitudes on racial issues among Whites (Sheatsley, 1966; Campbell and Schuman, 1968; Campbell, 1971; Pettigrew, 1973; Smith, 1976) and, among Blacks, inversely related to militancy and anti-White attitudes (Marx, 1967; Paige, 1970; Schuman and Hatchett, 1974).

Third, studies of White racial attitudes typically uncover a positive relationship of <u>educational attainment</u> of respondents with liberal racial attitudes (Schwartz, 1967; Campbell and Schuman, 1968; Campbell, 1971; Greeley and Sheatsley, 1971; Smith, 1976), while a few investigations of Black racial attitudes discover greater militancy among the most and the least educated (Caplan and Paige, 1968; Schuman and Hatchett, 1974).

Considered together, these previous studies suggest that both age and race, and education and race, may interact in influencing racial attitudes. Moreover, previous work on both White and Black racial attitudes points to an interaction of age and education (Campbell, 1971; Schuman and Hatchett, 1974); for both races, education seems to be more strongly related to the responses of younger respondents than to those of respondents over 40 years old.

These three demographic variables -- race, age, and education--have received considerable attention in the racial attitude literature. In this study we introduce another variable for consideration which has not been included in most studies--having children in the public schools. Many of the emotions and issues involved in the school busing controversy would seem to be more salient for parents of children in the schools than for non-parents (for example: fears of racial conflict in the schools; anxiety among parents about sending children far away to school; concern about educational standards in the schools; concern among Blacks about unsympathetic administrators and teachers in predominantly White schools). We expect that having children in the public schools may directly affect responses to a question on school busing or may interact--with race or education or age--in influencing responses.

This paper examines the relationship of these four variables--race, education, age, and having children in the public schools--to two questions from the 1976 Detroit Area Study: one question asked whether the respondent approved or disapproved of school busing as a means to integrate the schools of Detroit; the second asked whether the respondent would object to sending his or her children to a school where more than half of the children are of the opposite race. The latter question we select from a series of items on the issue of school integration. (These two questions from the interview are given in Appendix A, attached to the tables. Appendix B shows the correlations between the four demographic variables). Our analysis proceeds with two main questions in mind: Do these demographic variables influence attitudes towards busing? Do these demographic variables

influence attitudes towards busing? Do these demographic variables influence similarly attitudes towards busing and attitudes towards having one's children in a school where more than half of the children are of the opposite race?

The 1976 Detroit Area Study sample is particularly useful for this analysis because 400 of the 1134 respondents were Black. (238 of these 400 were selected as a Black supplement.) This is far more Blacks than often obtained in major national studies and allows us to analyze multidimensional contingency tables which include <u>race</u> along with other demographic variables. The 1134 interviews were obtained from April to August 1976 from a probability sample of the entire Detroit SMSA; the overall response rate was 75.4%.

To simplify the log-linear analysis which follows, all the variables, with one exception, are dichotomized, after curvilinear relationships were searched for and not found. Skew in the distribution of responses to the busing question forced a trichotomizing of this variable into the categories "Approve", "Disapprove", and "Strongly Disapprove".

Before proceeding into the log-linear analysis, we may note in Tables 1 and 5 that only about 7% of the Whites in the sample approve of busing, while 50% of the Blacks approve. A higher percentage of Whites--33%--have no objection to sending their children to schools where more than half of the children are of the opposite race, but 84% of the Blacks do not object to this circumstance. These tables indicate large differences in responses by race and extreme opposition to busing on the part of Whites.

Following the methods of log-linear analysis which are now common in sociological research (Goodman, 1971; Goodman, 1972; Davis, 1974), we examine the multivariate contingency tables produced by the exhaustive classification of the four demographic variables against first, attitudes towards busing, and, later, attitudes towards sending one's children to schools where more than half of the children are of the opposite race. The methods of log-linear analysis are especially useful for the problem at hand because they allow the explicit testing of interactions among variable in the tables, as well as the testing of direct effects of the independent variables on the dependent variable. The loglinear models are fit to the multivariate tables by an iterative proportional fitting procedure as implemented by the ECTA computer program.

Table 6 displays the observed data for the fiveway table of BUSING by race by children in the schools by age by education. Table 7 presents the models fit to these data, and Table 8 compares the fit of selected pairs of these models and tests the significance of specific terms. We note first that the differences between model 1 and models 2, 3, 4, and 5, taken singly, provide tests of the significance of the direct effects of education, age, children, and race on BUSING. Only race proves to have a significant effect (only model 5 stands as an improvement in fit over model 1). Likewise, the differences between model 6 and models 7, 8, 9, 10, 11, and 12, taken singly, provide tests of the significance of the interaction effects on attitudes towards busing of education and age, education and race, education and children, age and race, age and children, and race and children. Only the educationage interaction proves significant. Finally, the differences between model 13 and models 14, 15, 16 and 17 provide tests of the significance of four four-variable interaction terms. None tests as significant.

Summarizing the results of these tests: only race of respondent, and the interaction of education and age of respondent, affect responses to the busing question. Direct effects of education and age of respondent which we might have expected from previous racial attitude research do not appear; nor does the direct effect of having children in the public schools which we hypothesized. Interactions of race and education which we might also have expected do not test as significant. In regard to those terms which do test as significant space does not allow a full presentation of the effects of these terms on busing responses. Logit effects parameters were computed for the "bestfitting" model shown in Table 7, model 18 (EAB, RB, EACR). (The effects parameters are not shown here; author will supply them if requested.) These effects parameters indicate that the racebusing association is far more powerful than the education-age-busing interaction. Whites are much more disapproving of busing than Blacks, of course. And, while the education-age interaction is not completely clear, there is some indication that age has more effect among those with more education.

A glance at Tables 2 through 4 confirm for this Detroit sample what was discussed at the beginning of this paper: strong opposition to busing is combined with overwhelming support for the concept of racial integration of the schools (Table 2) and lack of objection to sending one's children to schools where a few or half of the children are of the opposite race (Tables 3 and 4). However, Table 5--attitude towards sending one's children to a school where more than half of the children are of the opposite race--shows again a strong division between White and Black respondents, with the majority of Whites opposed to sending their children to such schools. Yet--if we may for a moment consider current realities--school integration in the Detroit area (certainly in Detroit city proper) would require many White children to attend schools where they would be a minority. (At present, 81% of the students in Detroit city schools are Black.) White respondents appear to support school integration as an ideal but reject the circumstances which follow (e.g., school busing, minority status for some children in the schools) from any rapid implementation of that ideal.

We proceed to examine the responses to the question asking about sending one's children to a school where most children are of the opposite race; our primary purpose is to see whether the relationships of the responses to this question (which I shall term the "MIXING" question) with the independent variables are similar or differ from those for the responses to the busing question.

Table 9 displays the observed data for the fiveway table of MIXING by race by children by age by education. Table 10 presents the models fitted; Table 11 compares the fit of selected pairs of these models. The differences between model 1 and models 2, 3, 4, and 5, taken singly, provide tests of the significance of the direct effects of education, age, children, and race on school mixing. Age and race prove to have significant effects. The three-variable interactions are tested by the differences between model 6 and models 7 through 12. Four interactions--education and age, education and race, age and race, and age and children--test as significant in their effects on responses to the MIXING question. The four-variable interactions are tested by the differences between model 13 and models 14 through 17. None of these test as significant at the .01 level, although education-race-children and education-age-children quite nearly do.

Summarizing the results of these tests: Both age of respondent and race of respondent directly affect responses to this item. Four interactions-including several (e.g. education and age, education and race, age and race) which previous investigations led us to expect to possess explanatory power--also tested as significant. Again space does not allow a full presentation of these relationships. Logit effects parameters were compiled for the "best-fitting" model shown in Table 12, Model 20 (EACM, ARCM, EACR). (The effects parameters are not shown here.) At least one relationship--age is inversely related to no objection to sending one's children to a school where more than half of the children are of the opposite race--runs counter to expectations based on the racial attitude literature, although perhaps not counter to common-sense expectations on this particular issue. On the other hand, race influences the responses as we would expect--Whites object much more frequently than Blacks-and the magnitude of the effects parameters indicate that race has more effect than any of the other variables considered. The nature of the interactions which test as significant in Table 11 is not best examined by looking at the effects parameters for the best-fitting model, Model 20. They do suggest, however, that age and race interact such that age has a greater effect on the responses of Blacks than Whites; education and age seem to interact such that education has more effect on those persons under 40 than those over 40.

We conclude our findings with a few summary comparisons of the results of the analysis of the busing and MIXING tables. In both cases race of respondent has the most powerful effect on the distribution of responses observed. When we proceed beyond that direct effect, we find that <u>different</u> models fit the two sets of data; the same relationships between the dependent and independent variables do <u>not</u> hold when the two sets of responses are examined. Furthermore, if we require a p value of .500 for a model to qualify as "best-fitting", we note that the analysis of the table for busing yields a best-fitting model with nothing more complex than a race-busing association and an education-age-busing interaction, whereas analysis of the table for MIXING yields a best-fitting model consisting of two interactions of MIXING with three other variables. These comparisons suggest that there is simply much more "action" among the independent variables and the dependent variable in the table of responses to the school MIXING question than there is among the independent variables and the dependent variable in the table of responses to the busing question. In the latter table, knowing the race of respondent gets us quite a long ways towards an accurate prediction of responses to the busing question.

The results of the above analysis emphasize what political and social observers following the busing controversy in Detroit and elsewhere have suggested: opposition to the busing of school children in order to integrate schools is spread throughout the socity. Demographic characteristics which past studies have found related to racial attitudes and attitudes towards school desegregation seem to hold no force here. Race is the sole characteristic which carries weight: Blacks generally approve of busing, while Whites oppose it. Education and age prove to have no direct influence; a relatively weak interaction of the two is suggested by the results, but it would be a mistake to emphasize its importance since the race effect is of much greater magnitude. Having children in the schools also proves to have no direct effect on attitudes towards busing, running against our instincts (but repeating Kelley's findings in his analysis of the 1972 NORC data: Kelley, 1974). And, with the exception of the education-age interaction just noted, none of the interactions which use of the log-linear analysis allowed us to test proves significant.

Examination of the multidimensional contingency table of the responses to a question on having one's children in a school where more than half of the children are of the opposite race, produced different results. Race remains of overwhelming importance, but other associations and interactions test as significant. Moreover, a good fit to the observed data requires a more complicated model than was required for the busing question.

Comparing the results of the analysis of the two data sets suggests that attitudes towards busing are distinctive by their absence of demographic correlates, beyond race of respondent. We speculate, nevertheless, that the comparison was not ideal because the question on school integration used in the comparison may be a weak measure of integration sentiments. If, instead, we compare our findings with those of others who have studied the demographic correlates of attitudes towards school integration (or, indeed, racial attitudes in general), then the anomaly of the <u>absence</u> of demographic correlates of busing attitudes stands out more strongly.

Approval and disapproval of school busing do not seem to be located socially the way other racial issues have been. Consequently, perhaps a different career should be expected for school busing as a public issue than has been observed for racial issues. In the case of many of these issues, gradual public acceptance of more liberal policy has followed initial opposition to liberal policy (Greeley and Sheatsley, 1971). Usually the upper socioeconomic strata (especially the more educated) and the young have been the vanguard groups in the change. These data from Detroit, however, provide little evidence that the better-educated and the young are more approving of school busing. (Nor, it might be added, do we find any evidence that the young and better-educated are more willing to allow their children to attend schools where they would be in a minority.) There do not appear to be "vanguard groups"-certainly not among Whites--in Detroit.

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APPENDIX A

Description of the Variables

BUSING: "The courts ordered busing for some Detroit school Ine courts ordered busing for some Detroit school children this past winter. What do you think of bus-ing as a way to integrate the schools of the city of Detroit? Do you strongly approve, approve, disapprove, or strongly disapprove of busing for integration in Detroit?"

In this analysis:

Category 1.	"Approve": "Strongly approve" and
	"Approve" responses
Category 2.	"Disapprove": "Disapprove" responses
Category 3.	"Strongly disapprove": "Strongly dis-
	approve" responses

MIXING: "Would you have any objection to having children of your own attend a school where more than half of the children are (OPPOSITE RACE OF R)?"

In this analysis:

Category 1: "No objection": "No objection" responses Category 2: "Object": "Object" responses to this "Object": "Object" responses to this question plus respondents who objected to sending their children to a school where a <u>few</u> or <u>half</u> of the children are of the opposite race. (Respondents who objected to sending their children to a school where a <u>few</u> of the children are of the opposite race were not asked whether they objected to sending their children to a school where <u>half</u> or <u>more than half</u> are of the opposite race. Likewise, those who objected to sending their children to a school where half are of the opposite race were not asked whether they objected to sending them to a school where more than half are of the opposite race.)

RACE : Category 1: White Category 2: Black "Other" category excluded from this

analysis CHILDREN: "Do you have any children attending public schools?"

- Category 1: Yes Category 2: No
- AGE :
 - Category 1: Less than 40 years old. Respondents range from 18 to 39 years old. 40 years or older. Respondents range from 40 to 93 years old. Category 2:
- EDUCATION:
 - <u>Category 1</u>: 12 years of schooling or less. Pespondents range from 0 to 12 years of schooling. <u>Category 2</u>: More than 12 years of schooling. Respondents range from 12 to 17+ years of schooling.

APPENDIX B

Correlations (Gammas) between the Independent Variables

	RACE	CHILDREN	AGE	EDUCATION
RACE		06	08	24
CHILDREN			.41	.21
AGE				35
EDUCATION				

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Table 1: Attitude Towards Busing, by Race

		BUSING				
RACE	Approve	Disapprove	Strongly Disapprove	Total	<u>N</u>	Missing Data
White	6.6%	37.2%	56.2%	100.0%	697	30
Black	50.0	38.8	11.2	100.0	$\frac{374}{1071}$	<u>26</u> 56
Chi-squar	re 37	4.70 $\frac{df}{4}$	<u></u> 0.00	ō		

Goodman-Kruskal Tau: Busing

Table 2: Attitude Towards White and Black Students Attending the Same Schools, by Race

Table 6: Observed Frequencies in the 5-Way Table, Busing by Race by Children by Age by Education

		SCHOOLS				
RACE	Same	Unsure	Separate	Total	N	Missing Data
White	86.0%	4.7%	9.37	100.0%	688	39
Black	93.4	3.7	2.9	100.0	<u> </u>	$\frac{10}{49}$
Black	93.4	3.7	2.9	100.0	<u>390</u> 1078	10

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Chi-square 19.617 df p.0119

Goodman-Kruskal Tau <u>Schools</u>

					BUSING	
RACE	Children	AGE	EDUCATION	Approve	Disapprove	Strongly Disapprove
White	Yes	<40 yrs	<u><</u> 12 yrs	3	29	66
			>12	2	16	17
		<u>>40</u>	<u><</u> 12	4	21	48
			>12	3	11	25
	No	<40	<u><12</u>	3	19	31
			>12	4	35	28
		<u>></u> 40	<u><12</u>	5	51	79
			>12	5	11	33
Black	Yes	<40	<u><12</u>	33	31	11
			>12	10	11	3
		<u>></u> 40	<u><</u> 12	22	16	4
			>12	3	0 ¹	2
	No	<40	<u><</u> 12	21	8 .	3
			>12	11	10	4
		<u>></u> 40	<u><12</u>	37	35	5
			>12	_12	8	2
	-			183	312	301

Table 3: Attitude Towards Children Attending Schools Where a Few of the Children are of Opposite Race, by Race

	FEW OPPOSI	TE RACE			
RACE	No Objection	Object	Total	N	Missing Data
White	91.6%	8.4%	100.0%	722	5
Black	95.0	5.0	100.0	<u> </u>	<u>3</u> 8

Chi-square 5.010 $\frac{df}{2}$ $\frac{p}{.0817}$

Goodman-Kruskal Tau Few ,0044

 $^{1}\text{O.5}$ was added to all cells before carrying out the log-linear analysis.

Mode1	Marginals Fit*	Likelihood Ratio X ²	df	Signif.
(1)	B,EARC	319.59	30	0.000
(2)	EB,EARC	318.22	28	0.000
(3)	AB, EARC	317.03	28	0.000
(4)	RB,EARC	34.48	28	0.1855
(5)	CB,EARC	317.61	28	0.000
(6)	EB,AB,RB,CB,EARC	28.31	22	0.1657
(7)	EAB, RB, CB, EARC	17.15	20	>.500
(8)	ERB,AB,CB,EARC	24.71	20	0.2129
(9)	ECB, AB, RB, EARC	27.88	20	0.1125
(10)	ARB, EB, CB, EARC	25.46	20	0.1845
(11)	ACB, EB, RB, EARC	27.14	20	0.1315
(12)	RCB,EB,AB,EARC	26.56	20	0.1484
(13)	EAB, ERB, ECB, ARB, ACB, RCB, EARC	7.99	10	>.500
(14)	EARB, ECB, ACB, RCB, EARC	7.36	8	0.4986
(15)	EACB, ERB, ARB, RCB, EARC	6.91	8	>.500
(16)	ERCB, EAB, ARB, ACB, EARC	6.39	8	>.500
(17)	ARCB, EAB, ERB, ECB, EARC	5.15	8	>.500
(18)	EAB, RB, EARC	19.44	22	>.500
(19)	EAB,CB,EARC	301.13	22	0.000
(20)	EAB, EARC	302.82	24	0.000
(21)	EAB, ERB, EARC	15.58	20	>.500

Table 7: Models Fit to the Data of Table 6 (Busing by Education by Age by Children by Race) and Assessments of Their Fit

*In model descriptions the variables are: B - Busing, E - Education, A - Age, R - Race, C - Children in public schools. The symbol "XY" means the model is constrained to reproduce the observed relation between variables "X" and "Y".

Table 4:	Attitude Towards Children Attending School Where Half of
	the Children are of Opposite Race, by Race

	HALF OPPOSI	TE RACE			Missing
RACE	No Objection	Object	Total	N	Data
White	64.5%	35.5%	100.0%	715	12
Black	91.7	8.3	100.0	<u>396</u> 1111	$\frac{4}{16}$
Chi-square	98.332	$\frac{df}{2}$ $\frac{1}{0.0}$	000		
		Half			

Goodman-Kruskal Tau Half

Table 5: Attitude Towards Children Attending School Where More Than Half of the Children are of Opposite Race, by Race

	MORE THAN HAL					Missing
RACE	No Objection		bject	Total	N	Data
White	33.0%		67.0%	100.0%	648	79
Black	84.0		16.0	100.0	<u>375</u> 1023	<u>25</u> 104
Chi-squar	re 250.05	df	P	_		

Chi-square 250.05 $\frac{dt}{2}$ $\frac{p}{0.000}$

Goodman-Kruskal Tau More than .2430

452

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Table 8: Chi-square on the Difference Between the Fit of Selected Models in Table 7

Models	Terms Tested	Difference in Likelihood Ratio X ²	Difference in df	Signif.
Models	lested	Likelihood Ratio X	111 01	Signit.
(2) - (1)	EB	1.37	2	>.250
(3) - (1)	AB	2.56	2	>.250
(4) - (1)	RB	285.11	2	<.001
(5) - (1)	СВ	1.98	2	>.250
(7) - (6)	EAB	11.16	2	<.005
(8) - (6)	ERB	3.60	2	>.100
(9) - (6)	ECB	0.43	2	>.750
(10) - (6)	ARB	2.85	2	>.100
(11) - (6)	ACB	1.17	2	>.500
(12) - (6)	RCB	1.75	2	>.250
(14) - (13)	EARB	0.63	. 2	>.500
(15) - (13)	EACB	1.08	2	>.500
(16) - (13)	ERCB	1.60	2	>.250
(17) - (13)	ARCB	2.84	. 2	>.100
(13) - (7)		9.16	10	>.500
(7) - (18)		2.29	2	>.250
(21) - (18)		3.86	2	>.100

Table 10: Models Fit to the Data of Table 11 (MIXING by Education by Age by Children by Race) and Assessments of their Fit

<u>Model</u>	Marginals Fit*	Likelihood Ratio X ²	df	Signif.
(1)	M, EARC	251.90	15	0.000
(2)	EM, EARC	251.31	14	0.000
(3)	AM, EARC	239.96	14	0.000
(4)	RM, EARC	88.91	14	0.000
(5)	CM, EARC	250.69	14	0.000
(6)	EM, AM, RM, CM, EARC	64.97	11	0.000
(7)	EAM, RM, CM, EARC	50.31	10	0.000
(8)	ERM, AM, CM, EARC	46.67	10	0.000
(9)	ECM, AM, RM, EARC	62.32	10	0.000
(10)	ARM, EM, CM, EARC	51.62	10	0.000
(11)	ACM, EM, RM, EARC	53.89	10	0.000
(12)	RCM, EM, AM, EARC	59.82	10	0.000
(13)	EAM, ERM, ECM, ARM, ACM, RCM, EARC	12.44	5	0.0289
(14)	EARM, ECM, ACM, RCM, EARC	12.30	4	0.0151
(15)	EACM, ERM, ARM, RCM, EARC	7.07	4	0.1319
(16)	ERCM, EAM, ARM, ACM, EARC	7.29	4.	0.1211
(17)	ARCM, EAM, ERM, ECM, EARC	7.71	4	0.1027
(18)	EARM, EACM, ERCM, ARCM, EARC	0.05	1	>.500
(19)	EACM, ERCM, ARCM, EARC	0.07	2	>.500
(20)	EACM, ARCM, EARC	3.35	-4	0.4998
(21)	EACM, ARM, RCM, EARC	10.85	5	0.0542
(22)	ARCM, EAM, ECM, EARC	10.16	5	0.0705

*In model descriptions the variables are: M - MIXING; E - education; A - age; R - race; C - children in public schools. The symbol "XY" means the model is constrained to reproduce the observed relation between variables "X" and "Y".

Table 9:	Observed Frequencies in the 5-Way Table, MIXING by Race
	by Children by Age by Education

				MIXING	
RACE	CHILDREN	AGE	EDUCATION	No objection	Object
White	Yes	<40 yrs	<u><12 yrs</u>	25	73
			>12	13	21
		>40	<u><</u> 12	18	51
		_	>12	17	17
	No	<40	<u><12</u>	18	33
			>12	20	41
		<u>></u> 40	<u><</u> 12	44	83
		-	>12	21	5
Black	Yes	<40	>12	59	16
			>12	21	3
	•	>40	<u><12</u>	35	6
		-	>12	4	0 ¹
	No	<40	<u><12</u>	21	9
			>12	17	25
		>40	<12	· 76	4
		-	>12	2 <u>3</u> 432	$\frac{0}{387}$

 $^{1}\mathrm{O.5}$ was added to all cells before carrying out the log-linear analysis.

Table 11: Chi-square Values on the Difference Between the Fit of Selected Models in Table 12

Models	Terms Tested	Difference in Likelihood Ratio X ²	Difference in df	Signif.
(2) - (1)	EM	0.60	1	>.250
(3) - (1)	AM	11.95	1	<.001
(4) - (1)	RM	163.00	1	<.001
(5) - (1)	СМ	1.22	1	>.250
(7) - (6)	EAM	14.66	1	<.001
(8) - (6)	ERM	18.30	1	<.001
(9) - (6)	ECM	2.65	1	>.100
(10) ~ (6)	ARM	13.35	1	<.001
(11) - (6)	ACM	11.08	1	<.001
(12) ~ (6)	RCM	5.15	1	>.010
(14) - (13)	EARM	0.14	1	>.500
(15) - (13)	EACM	5.37	1	>.010
(16) - (13)	ERCM	5.15	1	>.010
(17) - (13)	ARCM	4.73	· 1	>.025
(18) - (19)		0.02	1	>.750
(19) - (20)		3.28	2	>.100