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Table C-1 Residual Difference, 1996

	Mean Test Score Model			High Achiever Model			Low Achiever Model			Pass Rate Model		
	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic groups (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic groups (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)
Mathematics	80.8945 *			0.2274 *			0.1880 *			0.8120 *		
American Indian vs. Caucasian	67.7034	75.496	59.07%	0.0599	0.1339	44.17%	0.4927	0.3028	62.31%	0.5073	0.6972	62.32%
Asian vs. Caucasian	74.7936	78.70565	64.12%	0.1652	0.2202	88.42%	0.3483	0.2522	59.92%	0.6517	0.7478	59.92%
Hispanic vs. Caucasian	67.6798	76.49635	66.72%	0.0698	0.1682	62.45%	0.5099	0.3009	64.92%	0.4901	0.6991	64.92%
African American vs. Caucasian	59.6751	75.29306	73.60%	0.0372	0.1486	58.56%	0.6796	0.3379	69.49%	0.3204	0.6621	69.49%
Reading	73.7104 *			0.1945 *			0.1831 *			0.6708 *		
American Indian vs. Caucasian	62.2014	69.87723	66.69%	0.0738	0.1704	80.05%	0.4173	0.2580	68.00%	0.4122	0.5797	64.78%
Asian vs. Caucasian	66.7696	69.62887	41.20%	0.1366	0.1711	59.66%	0.3317	0.2680	42.84%	0.5268	0.5712	30.81%
Hispanic vs. Caucasian	61.0953	67.19077	48.32%	0.0749	0.1338	49.28%	0.4283	0.3103	48.10%	0.3909	0.5204	46.27%
African American vs. Caucasian	54.8055	69.00967	75.13%	0.0345	0.1585	77.51%	0.5661	0.2943	70.97%	0.2748	0.5585	71.64%

* mean values of Caucasian

(1) mean values of dependent variables of each ethnic group.

(2) mean values of "equally treated" dependent variables of each minority group.

(3) residual difference = (2) - (1) / mean values of Caucasian - (1)

Source : Regression Analysis, Minnesota Basic Standards Test Scores, Spring 1996

Table C-2 Residual Difference, 1997

	Mean Test Score Model			High Achiever Model			Low Achiever Model			Pass Rate Model		
	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic groups (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic groups (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)
Mathematics	81.7190 *			0.2124 *			0.1647 *			0.7471 *		
American Indian vs. Caucasian	69.5917	74.64055	41.63%	0.0737	0.1245	36.62%	0.4556	0.3379	40.45%	0.4329	0.5603	40.56%
Asian vs. Caucasian	73.3406	76.99313	43.60%	0.1209	0.1779	62.33%	0.3683	0.2957	35.63%	0.5411	0.6348	45.49%
Hispanic vs. Caucasian	67.5172	75.60846	56.97%	0.0564	0.1413	54.41%	0.4856	0.3273	49.32%	0.3920	0.5847	54.26%
African American vs. Caucasian	59.9018	72.58619	58.14%	0.0283	0.1084	43.47%	0.6789	0.3956	55.09%	0.2185	0.4972	52.72%
Reading	76.5331 *			0.1833 *			0.1788 *			0.6317 *		
American Indian vs. Caucasian	64.9917	70.24274	45.50%	0.0641	0.1336	58.27%	0.4256	0.3162	44.32%	0.3554	0.4855	47.09%
Asian vs. Caucasian	65.6660	70.71079	46.42%	0.1149	0.1808	96.27%	0.4146	0.3250	38.01%	0.3945	0.5142	50.46%
Hispanic vs. Caucasian	64.0155	70.33027	50.45%	0.0450	0.1493	75.41%	0.4177	0.3258	38.47%	0.3474	0.4893	49.90%
African American vs. Caucasian	57.2576	68.95638	60.69%	0.0383	0.1219	57.65%	0.5759	0.3527	56.22%	0.2334	0.4520	54.88%

* mean values of Caucasian

(1) mean values of dependent variables of each ethnic group.

(2) mean values of "equally treated" dependent variables of each minority group.

(3) residual difference = (2) - (1) / mean values of Caucasian - (1)

Source : Regression Analysis, Minnesota Basic Standards Test Scores, Spring 1997

Table C-3 Residual Difference, 1998

	Mean Test Score Model			High Achiever Model			Low Achiever Model			Pass Rate Model		
	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic groups (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic groups (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)
Mathematics	81.6553 *			0.2328 *			0.1528 *			0.7626 *		
American Indian vs. Caucasian	66.0329	73.81183	49.79%	0.0739	0.1238	31.38%	0.4799	0.2982	55.56%	0.4124	0.5943	51.95%
Asian vs. Caucasian	71.6043	73.7955	21.80%	0.1485	0.1676	22.62%	0.3559	0.3166	19.34%	0.5337	0.6043	30.86%
Hispanic vs. Caucasian	64.8183	73.03658	48.81%	0.0689	0.1383	42.35%	0.5000	0.3343	47.72%	0.3916	0.5781	50.27%
African American vs. Caucasian	57.1729	72.49497	62.58%	0.0337	0.1196	43.15%	0.6414	0.3392	61.86%	0.2703	0.5476	56.34%
Reading	80.2256 *			0.2041 *			0.1528 *			0.7307 *		
American Indian vs. Caucasian	65.5589	73.79029	56.12%	0.0611	0.1319	49.48%	0.4124	0.2590	59.10%	0.3887	0.5912	59.22%
Asian vs. Caucasian	69.7266	71.24359	14.45%	0.1028	0.1364	33.12%	0.3672	0.3309	16.96%	0.4788	0.5659	34.59%
Hispanic vs. Caucasian	65.3046	70.60856	35.55%	0.0639	0.1182	38.72%	0.4529	0.3486	34.78%	0.3975	0.5434	43.78%
African American vs. Caucasian	61.4251	72.16819	57.14%	0.0381	0.1201	49.37%	0.5143	0.3042	58.11%	0.3256	0.5622	58.40%

* mean values of Caucasian

(1) mean values of dependent variables of each ethnic group.

(2) mean values of "equally treated" dependent variables of each minority group.

(3) residual difference = (2) - (1) / mean values of Caucasian - (1)

Source : Regression Analysis, Minnesota Basic Standards Test Scores, Spring 1998

Table C-4 Residual Difference, 1999

	Mean Test Score Model			High Achiever Model			Low Achiever Model			Pass Rate Model		
	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic groups (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic groups (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)
Mathematics	81.3916 *			0.2448 *			0.1525 *			0.7506 *		
American Indian vs. Caucasian	64.6714	72.3797	46.10%	0.0539	0.1329	41.40%	0.4831	0.3326	45.51%	0.3840	0.5472	44.51%
Asian vs. Caucasian	73.1109	74.3954	15.51%	0.1539	0.2154	67.60%	0.3221	0.3090	7.72%	0.5653	0.6015	19.54%
Hispanic vs. Caucasian	62.8753	72.3678	51.27%	0.0625	0.1649	56.14%	0.5171	0.3397	48.67%	0.3683	0.5568	49.31%
African American vs. Caucasian	56.9318	72.1020	62.02%	0.0348	0.1510	55.33%	0.6237	0.3393	60.36%	0.2635	0.5480	58.40%
Reading	82.8088 *			0.2407 *			0.1482 *			0.7977 *		
American Indian vs. Caucasian	68.5509	75.9461	51.87%	0.0627	0.1538	51.21%	0.4378	0.2848	52.81%	0.4769	0.6431	51.80%
Asian vs. Caucasian	72.9811	74.5852	16.32%	0.1274	0.1938	58.63%	0.3705	0.3383	14.50%	0.5504	0.6182	27.44%
Hispanic vs. Caucasian	67.1495	73.5349	40.78%	0.0776	0.1603	50.76%	0.4653	0.3545	34.94%	0.4609	0.5931	39.26%
African American vs. Caucasian	63.3006	74.8951	59.43%	0.0562	0.1538	52.88%	0.5433	0.3166	57.38%	0.3873	0.6205	56.83%

* mean values of Caucasian

(1) mean values of dependent variables of each ethnic group.

(2) mean values of "equally treated" dependent variables of each minority group.

(3) residual difference = (2) - (1) / mean values of Caucasian - (1)

Source : Regression Analysis, Minnesota Basic Standards Test Scores, Spring 1999

Table C-5 Residual Differences for Mean Test Score Model 1996-1999

	1996			1997	1998		1999	
	<i>original</i>	<i>replicated</i>	<i>with 1 year mobility</i>		<i>with school poverty</i>	<i>with individual poverty</i>	<i>with school poverty</i>	<i>with individual poverty</i>
Mathematics								
American Indian vs. Caucasian	58.89%	59.34%	59.07%	41.63%	49.79%	45.23%	46.10%	40.05%
Asian vs. Caucasian	58.89%	58.21%	64.12%	43.60%	21.80%	21.43%	15.51%	7.25%
Hispanic vs. Caucasian	69.90%	68.22%	66.72%	56.97%	48.81%	45.40%	51.27%	46.85%
African American vs. Caucasian	72.49%	72.47%	73.60%	58.14%	62.58%	57.74%	62.02%	54.97%
Reading								
American Indian vs. Caucasian	67.43%	66.43%	66.69%	45.50%	56.12%	50.84%	51.87%	45.17%
Asian vs. Caucasian	36.76%	37.31%	41.20%	46.42%	14.45%	13.86%	16.32%	9.84%
Hispanic vs. Caucasian	51.47%	51.19%	48.32%	50.45%	35.55%	31.27%	40.78%	35.87%
African American vs. Caucasian	73.71%	74.09%	75.13%	60.69%	57.14%	50.15%	59.43%	51.14%

Source : Regression Analysis, Minnesota Basic Standards Test Scores, Spring 1996,1997,1998,1999

Table C-6 : Residual Difference of Mean Test Score Model with Individual Poverty Variable, 1999

	without 2-year improvement variable			with 2-year improvement variable		
	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)
Mathematics	81.3867 *			81.3867 *		
American Indian vs. Caucasian	64.6714	71.3665	40.05%	64.6714	71.3935	40.22%
Asian vs. Caucasian	73.1109	73.7110	7.25%	73.1109	73.6982	7.10%
Hispanic vs. Caucasian	62.8753	71.5481	46.85%	62.8753	71.5592	46.91%
African American vs. Caucasian	56.9318	70.3740	54.97%	56.9318	70.3780	54.98%
Reading	82.8058 *			82.8059 *		
American Indian vs. Caucasian	68.5509	74.9902	45.17%	68.5509	75.0089	45.30%
Asian vs. Caucasian	72.9811	73.9477	9.84%	72.9811	73.9578	9.94%
Hispanic vs. Caucasian	67.1495	72.7654	35.87%	67.1495	72.7904	36.03%
African American vs. Caucasian	63.3006	73.2764	51.14%	63.3006	73.2865	51.20%

* mean values of Caucasian

(1) mean values of dependent variables of each ethnic groups

(2) mean values of "equally treated" dependent variables of each minority groups

(3) residual difference = (2) - (1) / mean values of Caucasian - (1)

2-year improvement : 1999 test score > 1996 test score

Source : Regression Analysis, Minnesota Basic Standards Test Scores, Spring 1999

Table C-7 : Residual Difference of Mean Test Score Model with Individual Poverty Variable, 1998

	without 2-year improvement variable			with 2-year improvement variable			percent changes of residual differences
	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)	mean of each ethnic group (1)	mean of equally treated (2)	residual difference (3)	
Mathematics	81.6553 *			81.6553 *			
American Indian vs. Caucasian	66.0329	73.0994	45.23%	66.0329	73.1	45.24%	0.01%
Asian vs. Caucasian	71.6043	73.7579	21.43%	71.6043	73.624	20.10%	-6.21%
Hispanic vs. Caucasian	64.8183	72.4628	45.40%	64.8183	72.3562	44.77%	-1.39%
African American vs. Caucasian	57.1729	71.3088	57.74%	57.1729	71.271	57.59%	-0.27%
Reading	80.2256 *			80.2256 *			
American Indian vs. Caucasian	65.5589	73.0156	50.84%	65.5589	72.958	50.45%	-0.77%
Asian vs. Caucasian	69.7266	71.1817	13.86%	69.7266	71.21	14.13%	1.96%
Hispanic vs. Caucasian	65.3046	69.9704	31.27%	65.3046	69.958	31.19%	-0.26%
African American vs. Caucasian	61.4251	70.8526	50.15%	61.4251	70.8730	50.25%	0.22%

* mean values of Caucasian

(1) mean values of dependent variables of each ethnic groups

(2) mean values of "equally treated" dependent variables of each minority groups

(3) residual difference = (2) - (1) / mean values of Caucasian - (1)

2-year improvement : 2000 test score > 1998 test score

Source : Regression Analysis, Minnesota Basic Standards Test Scores, Spring 1998