Cumulative Disadvantage as an Explanation for Observed Disproportionality within the Juvenile Justice System: An Empirical Test

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ABSTRACT

A number of scholars have attempted to explain disproportionality within the juvenile justice system as a function of cumulative disadvantage. This empirical test of the cumulative disadvantage hypothesis suggests that minorities tend to be most disadvantaged at stages in the process where confinement decisions are made (detention, commitment). Thus, while disadvantage does not appear to aggregate consistently and unidirectionally as the child moves through the system, there is some evidence that disadvantage does aggregate between the detention and adjudication stages, once controls from legal differences are imposed.

INTRODUCTION

It has long been believed that race shapes the way the criminal justice system treats individuals accused of crimes (Spohn, 2000). Certainly, there is no doubt that Blacks and other minorities are disproportionately represented among those formally processed by both the juvenile and adult justice systems and are frequently over-represented among those confined in jails, prisons, and detention centers (Hsia & Hamparian, 1998; McGarrell, 1993; Petersilia, 1997; Spohn, 2000; U.S. Department of Justice, 1999). Disproportionate minority confinement became so pronounced within the juvenile justice system that Congress felt obliged to address the problem nationally with passage of the disproportionate minority confinement initiative ("DMC") (Feyerherm, 1995). Since 1992, the DMC has made it a core requirement for funding under the Juvenile Justice and Delinquency Prevention Act ("JJDPA") that states take steps to reduce minority overrepresentation (Hsia & Hamparian, 1998; Sickmund, Snyder & Poe-Yamagata, 1997).[1]

There is very little disagreement about the existence of disproportionate minority confinement, but the causes of disproportionate minority confinement are hotly debated (Bridges, Conley, Engen & Price-Spratlen, 1995). A few criminologists contend that minorities are disproportionately represented among confined populations primarily because they commit a disproportionate number of crimes (Blumstein, 1993; Wilbanks, 1987). Most criminologists, however, suggest that minority disproportionality is at least partially the result of discrimination of some kind. Basically, these criminologists assert that minority (especially Black) children are disproportionately subjected to punitive treatment by the juvenile justice system because White people, who control both the system and the wider society, are inclined to process formally and sanction punitively Black children more often than White children (Austin, 1995; Feld, 1999; Kempf-Leonard & Sontheimer, 1995). Some experts suggest that Black males are especially likely to receive punitive treatment from the justice system (Chambliss, 1995; Miller, 1996; Steffensmeier, Ulmer & Kramer, 1998).

Despite the persistence and pervasiveness of belief

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in the discrimination hypothesis, the research record provides only inconsistent support for the notion that race significantly influences the treatment of children of color by the juvenile justice system (Pope & Feyerherm, 1990; Tittle & Curran, 1988). Perhaps because much of the literature evaluating the impact of race on arrest, prosecution, and sentencing has failed to disclose huge direct racial effects (Bishop & Frazier, 1992; Leonard & Sontheimer, 1995; Munoz, Lopez & Stewart, 1998), such as one would expect if racial discrimination primarily drove the system's operation, some scholars have abandoned overt and pervasive discrimination as an explanation for existing disproportionality (Pope & Feyerherm, 1993; Sampson & Lauritsen, 1997). These scholars nevertheless assert that race plays an incrementally significant role in criminal justice processing decisions. These scholars maintain that at each stage of the juvenile justice process, decision-makers act in ways that slightly disadvantage racial minorities (Pope & Feyerherm, 1993). These "slight disadvantages" aggregate as children move through the system. The resulting cumulative disadvantage translates into substantial systemic discrimination against minorities, which manifests itself in disproportionately higher confinement rates (Mann, 1994; Pope, 1984; Pope & Feyerherm, 1993; Sampson & Lauritsen, 1997).

In other words, the cumulative disadvantage hypothesis suggests that discrimination at one stage of the process is amplified by subsequent discrimination at each succeeding stage of the process (Pope & Feyerherm, 1993, 1990; Pope, 1984). As a result, a small, statistically significant race effect at one stage, while perhaps trivial on its own, should not be regarded as unimportant because it could be an indicator of a larger system-wide race effect. Thus, this hypothesis suggests that small but discernible race effects will be found at each stage of the criminal justice process, and that observed disproportionality in the system's end product, confinement, is explained as the end result of a cumulative process of minor discrimination at each stage.

To test the efficacy of the cumulative disadvantage hypothesis, disproportionality at the referral, detention, adjudication, and commitment stages will be examined. In addition, multivariate analysis will be used to determine whether race continues to have a statistically significant impact on detention, adjudication, or commitment after legally relevant differences such as offense and prior record have been controlled. The results of this analysis will indicate the extent to which cumulative disadvantage explains the disproportionate confinement of minority juveniles.

Evidence of Cumulative Disadvantage

Very little research examining the validity of the cumulative disadvantage thesis has imposed rigorous controls at each stage in the juvenile justice process, thus it is currently difficult to assess the merits of cumulative disadvantage as an explanation for observed disproportionality. Nevertheless, there is some empirical evidence that suggests that the cumulative disadvantage hypothesis may correctly explain the operation of the juvenile justice system. Descriptive evidence of cumulative disadvantage was uncovered by Pope and Feyerherm in research based upon statewide data from California which found that as juveniles moved through the system, small differences accumulated and became more pronounced (Pope & Feyerherm, 1993). In evaluating the DMC pilot program in five states, Coramae Richey Mann found that Black children were disproportionately represented in every state and at every stage from arrest, to detention, to adjudication, to ultimate commitment to a secure facility (Mann, 1994). She also found that disparities between minority and nonminority youths increased as the children proceeded through the various decision points of the juvenile justice system (Mann, 1994).

National data concerning minorities in the juvenile justice system compiled by the Department of Justice, indicate that minorities are increasingly disproportionately represented at every stage examined from referral to confinement (U.S. Department of Justice, 1999).[2] Using slightly more recent nationwide data, Poe-Yamagata and Jones also found some evidence of increasing disproportionality within the juvenile system (Poe-Yamagata & Jones, 2000). Each evaluated stage of the process leading up to detention reflected increased disproportional representation of minorities. Subsequent stages, adjudication, and commitment, however, did not continue this trend of increasing disproportionality (Poe-Yamagata & Jones, 2000).[3] These findings suggest that the cumulative disadvantage hypothe-

sis may help to explain minority disproportionality. The inability of these researchers to control for factors other than race that have been shown to be significant at each stage of the juvenile justice process, such as offense and prior record, however, makes it difficult to infer with confidence that the accumulating disproportionality uncovered by these studies is the product of slight discrimination at each stage of the process.

Controlling for offense, age, prior record, sex, and probation status, Krisberg and Austin (1993) evaluated data from California (1985-1989) and found that race contributed both to the decision to detain and to sentencing outcomes. These results might indicate that minority youth are cumulatively disadvantaged, but not all of the literature is supportive. Using data from 1977, Bortner and Reed (1985) found that being Black, net of controls for offense and prior record, significantly contributed to detention, but that once controls for the outcome of the detention decision were imposed on analyses of the subsequent decision points (screening and disposition), race did not significantly contribute to outcome at either of the later decision points.

A number of researchers have found that Black males are treated more harshly than Black females or Whites at various stages of the criminal justice process (Katz & Spohn, 1995; Steffensmeier et al., 1998). For example, using data from Detroit documenting pretrial release status among violent felons, Katz and Spohn (1995) found that among adults, Black males are least likely to be released pending trial. Similarly, Steffensmeier and his colleagues, analyzing statewide adult sentencing outcomes in Pennsylvania for 1989-1992, found that young Black males received the harshest sentences of any group (they compared groups by age, race, and sex) (Steffensmeier et al., 1998). An attempt to replicate Steffensmeier and his colleagues' results also produced some evidence that young Black males were the most likely to be incarcerated (Spohn & Holleran, 2000). The harsher treatment accorded Black males at various stages of the process may well result in particularly pronounced cumulative disadvantage vis-à-vis Whites and Black girls.

Data and Methodology

The dataset provided for this study contained all 86,118 cases that were referred to the juvenile courts of Missouri in 1997. These data are routinely collected by every circuit (trial) court and are compiled for research and evaluation purposes as part of the Missouri Statewide Juvenile Information System. The Missouri Division of Youth Services ("DYS") released these data for analysis.

Because this analysis focuses on the treatment of status and delinquent offenders, children referred to the juvenile court for abuse and neglect or for traffic matters were removed from this dataset (20,120 cases). Also removed were children who could not be designated as Black or White (i.e., if race data were not reported or the children were Asian or Native American[4]) (1,247 cases). In addition, due to computer problems, data from the 29th Circuit (Jasper County) could not be included.[5] This left 64,466 cases for analysis in this study. These 64,466 cases include referrals from each of Missouri's 115 counties except Jasper County.

Several stages in the juvenile justice process will be examined in this research. Detention, adjudication, and commitment will all be used as dependent variables in assessing the degree to which race significantly influences the treatment of Black children at each of these stages. The first dependent variable, "detention," is a dichotomous measure reflecting whether the child was detained for some period of time prior to the adjudication hearing[6] (0=was not detained; 1=was detained). Out of the 64,457[7] cases containing data on detention status, less than 10% (N=6,311) of the cases resulted in the child being detained pending a hearing. Because considerable evidence suggests that detention status contributes to subsequent adjudication and commitment decisions (Bishop & Frazier, 1992:1183; Bortner & Reed, 1985; Clarke & Koch, 1980; Frazier & Bishop, 1985; Frazier & Cochran, 1986; McCarthy & Smith, 1986:52), detention will also be used as an independent variable in assessing the significance of race on the likelihood of adjudication and commitment.

The second dependent variable, adjudication, is a dichotomous measure reflecting whether the child was adjudicated either a delinquent or a status offender (0=not adjudicated; 1=adjudicated).[8] After making appropriate deletions,[9] 59,794 cases remained for analysis. Only 8,595 (14.37%) of these cases resulted in formal adjudications, meaning that the children involved in these cases were found to have committed the delinquent or status offense(s) for which they were referred.[10]

TABLE 1
Offense by Race and Sex Subgroup

	Black Female		Black Male		White Female		White Male		Total	
MOST SERIOUS OFFENSE	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT
Deliberate Lethal Felony (11)	0	0.00	14	0.11	4	0.03	3	0.01	21	0.03
Violent Sexual Felony (10)	4	0.08	90	0.70	8	0.05	122	0.38	224	0.35
Other Felony Against Persons (9)	191	3.71	793	6.17	178	1.22	844	2.65	2,006	3.11
Other Sexual Felony (8)	9	0.17	83	0.65	20	0.14	266	0.83	378	0.59
Felony Against Property (7)	279	5.42	1,826	14.21	913	6.26	4,098	12.85	7,116	11.04
Drug Offenses (6)	69	1.34	786	6.12	494	3.39	1,884	5.91	3,233	5.02
Public Order Offenses (5)	302	5.87	757	5.89	602	4.13	1,587	4.98	3,248	5.04
Misd. Against Persons (4)	1,259	24.47	2,490	19.38	1,852	12.69	5,944	18.64	11,545	17.91
Misd. Against Property (3)	1,523	29.60	3,898	30.34	3,175	21.76	8,710	27.32	17,306	26.85
Runaway (2)	593	11.53	535	4.16	2,898	19.86	2,121	6.65	6,147	9.54
Other Status Offenses (1)	916	17.80	1,576	12.27	4,442	30.45	6,301	19.76	13,235	20.53
Subtotal	5,145	100.00	12,848	100.00	14,586	99.97	31,880	99.99	64,459	99.99
Missing	0	0.00	0	0.00	4	0.03	3	0.01	7	0.01
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00	64,466	100.00
	Median	Std. Dev.	Median	Std. Dev.	Median	Std. Dev.	Median	Std. Dev.	Median	Std. Dev.
	3	1.89	4	2.25	2	1.87	3	2.15	3	2.15

The third dependent variable is a dichotomous measure of commitment and reflects whether the child was placed in a facility or allowed to remain in the home as a result of being adjudicated a delinquent or status offender (0=left in home; 1=committed). Of the 8,595 adjudicated offenders, 2,901 (33.75%) were committed, and the remaining 5,694 (66.25%) were left in their homes and either received in-home services or no services.

Race is the independent variable of primary concern. Race is a dichotomy measuring either Black (0) or White (1). All 64,466 cases used in this study have data indicating whether the child involved is Black or White. White children account for 46,473 (72.09%) of the cases used in this study. The remaining 17,993 (27.91%) cases involve Black children. To determine whether Black boys are particularly likely to suffer cumulative disadvantage, it will be necessary to consider sex in conjunction with race (Females=0; Males=1). Boys are the subject of 44,731 (69.39%) of the cases used in this study while girls are the subject of 19,735 (30.61%) cases (see Table 1).

To ensure that uncovered relationships between the dependent variables—detention, adjudication and commitment—and the independent variable—race—are not spurious, it is necessary to control for other factors known to contribute to differential treatment. The seriousness of the charged offense, prior record, age, and the presence of a detention facility in the processing jurisdiction have all been found statistically significant predictors of detention, conviction, or disposition (Bishop & Frazier, 1992; Bortner & Reed, 1985; Frazier & Bishop, 1995; 1985; Frazier & Cochran, 1986; Kramer & Steffensmeier, 1978; Schwartz et al., 1987; Pope & Feyerherm, 1981). The decision to detain a child has also been found to significantly influence decisions to subsequently adjudicate or confine that child (Phillips & Dinitz, 1982:276; Schwartz et al., 1987).

The seriousness of the offense or offenses that gave rise to the child's referral will be jointly controlled by two variables. The first of these controls is the offense variable and the second is the concurrent delinquency variable. The offense variable measures the major allegation giving rise to the child's referral to the juvenile court.[11] It is the most serious offense associated with the incident that gave rise to the child's referral but is not necessarily the only offense with which the child was charged. Reporting rates were very high, and only

TABLE 2A
Prior Delinquency Referrals by Sex and Race

No. of Prior Delinquent Referrals	Black Female		Black Male		White Female		White Male		Total	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT
None	2,289	44.49	3,511	27.33	9,271	63.54	15,233	47.78	30,304	47.01
1	1,236	24.02	2,208	17.19	2,549	17.47	5,485	17.20	11,478	17.80
2	603	11.72	1,498	11.66	1,214	8.32	3,094	9.70	6,409	9.94
3	312	6.06	1,116	8.69	595	4.08	2,121	6.65	4,144	6.43
4	199	3.87	829	6.45	344	2.36	1,459	4.58	2,831	4.39
5 or More	506	9.83	3,686	28.69	617	4.23	4,491	14.09	9,300	14.43
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00	64,466	100.00
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	1.67	3.06	3.87	5.33	0.87	1.80	2.09	4.00	2.13	4.00

TABLE 2B
Prior Status Referrals by Sex and Race

No. of Prior Status Referrals	Black Female		Black Male		White Female		White Male		Total	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT
None	3,352	65.15	7,779	60.55	10,066	68.99	22,060	69.19	43,257	67.10
1	734	14.27	2,251	17.52	1,910	13.09	4,157	13.04	9,052	14.04
2	409	7.95	1,137	8.85	907	6.22	2,029	6.36	4,482	6.95
3	208	4.04	621	4.83	513	3.52	1,132	3.55	2,474	3.84
4	131	2.55	346	2.69	338	2.32	702	2.20	1,517	2.35
5 or More	311	6.04	714	5.56	856	5.87	1,803	5.66	3,684	5.71
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00	64,466	100.00
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	1.03	2.36	1.03	2.08	1.01	2.81	0.95	2.50	0.99	2.48

seven of the 64,466 cases used in this study lacked offense data.

The offense data were consolidated into an 11-category ordinal variable reflecting offense seriousness based upon statutory offense type and felony classification scheme.[12] Close to 60% of the cases studied (N=36,688) involve a status offense or misdemeanor property offense (see Table 1). By contrast, far less than one percent of the cases involve deliberate lethal felonies or violent sexual felonies (see Table 1).

As is clear from a review of Table 1, there are demographic differences in the offenses with which children are charged. The median offense for Black males is misdemeanor against persons, for White males and Black females it is misdemeanor against property, and for White girls it is running away. These differences in average offense levels are primarily caused by the fact that a greater proportion of Black boys were charged with felonies against property and persons than were children belonging to the other demographic groups. Thus, it is clear that Black boys tended to come before the juvenile court charged with more serious offenses than did children belonging to other demographic groups.

The other dimension of offense seriousness for which I will control is concurrent delinquency. Concurrent delinquencies are all the acts of delinquent offending associated with a particular referral except for the most serious offense associated with that referral. The most serious offense associated with the referral is, of course, measured by the offense variable discussed

TABLE 3
Minority Disproportionality
Missouri's Youth Population in 1997

Minority Children*		White Children		Total	
FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT
246,124	17.50	1,160,300	82.50	1,406,424	100.00

** All minority children, not just Blacks, are included in this figure, thus the estimates of disproportionality are conservative.*

Children Referred to the Juvenile Court in 1997

	Black Female		Black Male		White Female		White Male		Total	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT
Referrals	5,145	7.98	12,848	19.93	14,590	22.63	31,883	49.46	64,466	100.00

Children Held in Detention Pending Adjudication

	Black Female		Black Male		White Female		White Male		Total	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT
Not Detained	4,633	90.07	10,531	81.97	13,530	92.77	29,452	92.38	58,146	90.21
Detained	511	9.93	2,316	18.03	1,055	7.23	2,429	7.62	6,311	9.79
Total	5,144	100.00	12,847	100.00	14,585	100.00	31,881	100.00	64,457	100.00
% of Det. Pop.	**8.10**		**36.70**		**16.72**		**38.49**			
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
	0.10	0.30	0.18	0.38	0.07	0.26	0.08	0.27	0.10	0.30

Children Adjudicated to be Delinquent or Status Offenders

	Black Female		Black Male		White Female		White Male		Total	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT
Not Adjudicated	4,072	88.25	9,436	81.53	12,129	89.47	25,562	85.06	51,199	85.63
Adjudicated	542	11.75	2,137	18.47	1,428	10.53	4,488	14.94	8,595	14.37
Total	4,614	100.00	11,573	100.00	13,557	100.00	30,050	100.00	59,794	100.00
% of Adj. Pop.	**6.31**		**24.86**		**16.61**		**52.22**			
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
	0.12	0.32	0.18	0.39	0.11	0.31	0.15	0.36	0.14	0.35

Children Committed as a Result of Adjudication

	Black Female		Black Male		White Female		White Male		Total	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT	FREQUENCY	PERCENT
Not Committed	330	60.89	1,340	62.70	984	68.91	3,040	67.74	5,694	66.25
Committed	212	39.11	797	37.30	444	31.09	1,448	32.26	2,901	33.75
Total	542	100.00	2,137	100.00	1,428	100.00	4,488	100.00	8,595	100.00
% of Com. Pop.	**7.31**		**27.47**		**15.31**		**49.91**			
	Mean	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
	0.39	0.49	0.37	0.48	0.31	0.46	0.32	0.47	0.34	0.47

TABLE 4
Correlation Matrix

	RACE	SEX	OFFENSE	CONCUR. DELINQUENCY	PRIOR DELINQ. REFERRAL	PRIOR STATUS REFERRAL	AGE	DETENTION FACILITY
Race	1							
Sex	-0.027**	1						
Offense	-0.112**	0.194**	1					
Concur. Delinquency	-0.072**	0.170**	0.476**	1				
Prior Delinq. Referral	-0.172**	0.175**	0.114**	0.197**	1			
Prior Status Referral	-0.011*	-0.008	-0.040**	-0.023**	0.221**	1		
Age	0.021**	-0.046**	0.058**	0.053**	0.130**	0.045**	1	
Detention Facility	-0.262**	0.004	0.097**	0.089**	0.121**	0.028**	0.077**	1
Detention	-0.124**	0.041**	0.195**	0.140**	0.130**	0.029**	0.092**	0.091**
Adjudication	-0.038**	0.067**	0.186**	0.172**	0.187**	0.063**	0.066**	0.037**
Commitment	-0.056**	0.005	-0.037**	-0.057**	0.104**	0.071**	0.073**	-0.018

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

** *Correlation is significant at the 0.001 level (2-tailed).*

above. The presence of one or more concurrent delinquencies indicates that the child faced multiple charges arising out of the incident that caused the referral.

Concurrent delinquency is recorded for all 64,466 cases that are the subject of this study. Unfortunately, the data reflect only the number and not the nature of the delinquent offenses associated with the primary referral. About 61% (N=39,156) of those referred to the juvenile court in 1997 had one concurrent delinquency. Almost 27% (N=17,146) of the sample had no concurrent delinquencies. Only about 13% (N=8,164) of the cases involved two or more concurrent delinquencies. There were, however, notable demographic differences in concurrent delinquency. White females were the least likely to have multiple charges (mean = .64), while Black males were the most likely to face multiple charges (mean = 1.10).[13]

In addition to controlling for offense and concurrent delinquency, I am also controlling for two dimensions of prior record. The first, prior delinquency, will control for the number of previous referrals for delinquent offenses. The second variable, prior status referrals, will control for the number of previous referrals for status offenses.

As with the concurrent delinquency data, the prior record data indicate only the number and not the substance of prior offenses, except to distinguish between prior delinquent and prior status offenses. This deficit is unfortunate but, unlike many prior studies (Bishop & Frazier, 1992; Frazier & Bishop, 1985), the prior record data are not limited to the study period but track a child's offending history from birth.

As is discernible from Table 2a, almost half the cases involved children with no prior delinquent referrals and less than 15% of the cases involved chronic delinquent offenders with five or more priors. Demographic differences, however, are apparent in the prior delinquency data. White girls have a mean prior delinquency level of less than one while Black boys have a mean prior delinquency level of almost four (see Table 2a). Black females and White males have mean prior delinquency levels of 1.67 and 2.09 respectively. This indicates that boys, particularly Black boys, were far more likely to come before the juvenile court with an extensive prior record. By contrast, there are but scant demographic differences when it comes to prior status referrals, and most children, irrespective of race or sex, do not have a prior status referral (see Table 2b).

The raw data contained a date of referral and a date of birth for each child. From these data, I calculated age at referral.[14] Of the 63,719 cases for which age is determinable, more than two-thirds (N=43,761; 68.68%) involve children between 14 and 16. Thus, despite recent concern regarding crimes committed by very young offenders (D'Ambra, 1997:300), these data do not suggest that very young children commit a significant proportion of juvenile crime. Race seems to have little influence on age at referral. Black children have a mean referral age of 14.14.[15] White children have a mean referral age of 14.23.[16]

In addition to controlling for individual level attributes such as offense, prior record, and age that might justify disparate treatment, I will also control for whether the jurisdiction had access to a detention facility. This factor is controlled for by measuring whether a detention facility is located within the circuit having jurisdiction over the case. I created this variable by contacting the Missouri Juvenile Justice Association (MJJA) to find out which of Missouri's 45 judicial circuits had detention facilities located within their geographic boundaries in 1997. The MJJA provided me with information that indicated that 20 circuits had detention facilities located within their boundaries during 1997.[17] Circuits were then coded as either possessing a detention facility (1) or not possessing a detention facility (0). Black children were more likely than White children to be processed by a circuit with a detention facility (compare 91.56% with 65.57%).

Results

To determine whether disproportionality tended to aggregate as Black children moved through the system from referral to ultimate disposition, it was necessary to obtain baseline population figures against which to determine disproportionality. According to *Kids Count Missouri 1998 Data Book*,[18] 17.5% of the 1,406,424 children residing in Missouri in 1997 were members of a minority group.[19] This means that almost a quarter of a million minority children lived in Missouri in 1997 (see Table 3).

Only 17.5% of the youth population was composed of minorities in 1997, but almost 28% (N=17,993) of the 64,466 cases referred to the juvenile court in 1997 involved Black children (see Table 3). Perhaps more significantly, almost 45% (N=2,827) of the 6,311 cases that resulted in detention pending adjudication involved Black children. Thus, White children referred to the juvenile court had only a 7.5% chance (3,484/46,466) of being detained while Black children referred to the juvenile court were more than twice as likely to be detained (15.7%; 2,827/17,991).

Only 8,595 of the cases referred to the juvenile court in 1997 resulted in a formal adjudication of "guilt" (i.e., a formal petition was filed and found to be true). About 31% (2,679/8,595) of the cases that resulted in formal adjudications involved Black children. The remaining 69% (N=5,916) of formally adjudicated cases involved White children. Black children had a 16.55% chance (2,679/16,187) of being formally adjudicated and White children had a 13.57% chance (5,916/43,607) of being formally adjudicated.

About 35% (1,009/2,901) of the cases that resulted in commitment involved Black children. The remaining 65% (N=1,892) of the 2,901 cases that resulted in commitment involved White children. Black children had about a 38% chance (1,009/2,679) of being committed if they were formally adjudicated. White children had about a 32% chance (1,892/5,916) of being committed if they were formally adjudicated.

Disproportionality was particularly pronounced for Black boys. In 1997, Black males accounted for less than 9% of the statewide youth population, assuming that minority youth were half female and half male (17.5%/2).[20] Yet, almost 20% of the cases referred to the juvenile court that year involved Black boys.

Almost 37% (2,316/6,311) of the cases involving juveniles detained pending their adjudication involve Black boys. Black boys had an 18.03% chance of being detained. White children of both sexes had less than an 8% chance of being detained. Black girls had less than a 10% chance of being detained (see Table 3).

Approximately one-quarter (2,137/8,595) of the cases that resulted in a formal adjudication involved a Black boy. Black boys had an 18.47% chance of being formally adjudicated. Girls, irrespective of race, had less than a 12% chance of being adjudicated whereas White boys had about a 15% chance of being formally adjudicated (see Table 3).

Cases involving Black boys account for 27.47% (797/2,901) of the cases involving commitments. Black boys who were formally adjudicated had about a 37% chance of being committed. However, this commitment rate is lower than that experienced by Black girls (39.11%). Whites of both sexes had about a 32% chance

of being committed if they were formally adjudicated.

Although the disproportionate representation of Black children, especially Black boys, at the referral, detention, adjudication, and commitment stages, apparent from the descriptive statistics contained in Table 3, is distressing and certainly suspicious, it does not by itself establish that race is the reason for the their disproportionate representation. After all, as is apparent from Tables 1 and 2 and accompanying text, Black children, specifically Black males, are more likely to come before the juvenile court charged with more serious offenses, facing multiple charges, and with more extensive records for delinquency. Black children are also more likely to be processed by a circuit that has a detention facility. Given the demonstrated empirical link between each of these factors and detention, adjudication, and commitment, it is possible that these factors rather than race are responsible for the disproportionate presence of Black children, particularly Black boys, at each of these stages. To rule out this possibility, multiple regression (which allows the influence of these other variables to be parsed out so that the influence of race on detention, adjudication, and commitment, can be examined in isolation) must be performed.

As a precursor to conducting logistic regression, a correlation matrix was constructed (see Table 4). Significant and preferably strong correlations between the independent and dependent variables are essential for establishing a basis for inferring a causal relationship. As can be discerned from Table 4, nearly all the independent variables are significantly correlated with all three dependent variables, although the correlations are relatively weak.[21] The strongest bivariate correlation is between offense and detention and suggests that being charged with a more serious offense correlates with receiving detention. Race is significantly correlated with detention, adjudication, and commitment, although the relationship between race and detention is the strongest.

It is important for the dependent and independent variables to be related, but it is equally important, for purposes of conducting multiple regression analysis, that the independent variables not be so highly correlated with one another as to engender multicollinearity problems (Bachman & Paternoster, 1997; Schroeder, Sjoquest & Stephan, 1986; Walker, 1999). The matrix reveals no bivariate correlations in excess of .70, which is the generally recognized point beyond which collinearity becomes a significant problem (Bachman & Paternoster, 1997:492-93; Walker, 1999:228) (see Table 4).

Having established that multiple regression can safely be employed with these data, it is time to examine the regression results. The model specified to predict detention is statistically significant and each of the independent variables specified as predictors of detention make a statistically significant contribution to the imposition of detention (see Table 5). An examination of Wald's statistics[22] reveals that offense makes the strongest contribution to detention followed by race, age, prior delinquency, being processed by a circuit with a detention facility, concurrent delinquency, and prior status referral (see Table 5). This means that older Black children with prior records who are accused of more serious and multiple offenses are the most likely to receive detention, especially if they are processed by a circuit with a detention facility. This model is significant, but the classification table suggests that it correctly predicts detention only infrequently (1.5%) and the measures of pseudo R^2 suggest that the model leaves a large proportion of the variance (somewhere between 94% and 87%) in application of detention unexplained (see Table 5).

The model specified to predict adjudication is statistically significant, and each of the independent variables specified as predictors of adjudication makes a statistically significant contribution to being adjudicated (see Table 5). Being held in detention before adjudication makes the largest contribution to the decision to adjudicate the minor "guilty" of the offenses for which s/he was referred. Prior delinquency makes the next largest contribution to adjudication followed by offense, concurrent delinquency, prior status referrals, race, age, and being processed by a circuit with a detention facility. Thus, older White children with prior records who are charged with more serious and multiple offenses are the most likely to be formally adjudicated, especially if processed by a circuit that does not have a detention facility. Although a comparison of the classification tables suggests that the model is better at predicting when a child will be adjudicated than it is at predicting when a child will be detained (compare 20.5% with 1.5%), the overall ability of the model to accurately predict outcome is best at the detention stage (compare 90.2% with 86.4%). The pseudo R^2 measures, however, suggest that the model explains a larger proportion of the variance in adjudication (11% to 20%) than in deten-

TABLE 5
Logistic Regression

VARIABLES IN THE EQUATION	Detention			Adjudication			Commitment		
	Log. Coeff.	S.E.	Wald	Log. Coeff.	S.E.	Wald	Log. Coeff.	S.E.	Wald
Race (white = 1)	-0.588**	0.029	403.780	0.207**	0.030	47.329	-0.146*	0.054	7.325
Offense	0.223**	0.006	1,218.719	0.132**	0.006	452.669	-0.036**	0.011	11.178
Conc. Delinq.	0.140**	0.014	94.204	0.228**	0.015	222.084	-0.159**	0.024	43.002
Pr. Delinq. Ref.	0.037**	0.003	172.557	0.072**	0.003	653.659	0.041**	0.005	77.925
Pr. Status Ref.	0.020**	0.005	14.089	0.035**	0.004	62.506	0.035**	0.008	17.939
Age	0.160**	0.009	327.863	0.030**	0.007	17.130	0.098**	0.017	32.703
Detention Facility	0.440**	0.039	127.966	-0.118**	0.031	15.008	-0.366**	0.059	38.647
Detention				1.885**	0.032	3,376.917	1.017**	0.051	394.689
Constant	-5.689**	0.135	1,784.423	-3.556**	0.109	1,054.967	-1.946**	0.252	59.548
	Chi-square	df		Chi-square	df		Chi-square	df	
	3916.274**	7		6917.741**	8		645.488**	8	
	-2 LL	C & S R^2	Nagel. R^2	-2 LL	C & S R^2	Nagel. R^2	-2 LL	C & S R^2	Nagel. R^2
	37,067.787	0.060	0.126	41,877.673	0.111	0.197	10,264.984	0.073	0.101

CLASSIFICATION TABLE FOR DETENTION				CLASSIFICATION TABLE FOR ADJUDICATION				CLASSIFICATION TABLE FOR COMMITMENT			
Detained Observed y Value	Predicted y Value No	Yes	% Correct	Adjudicated Observed y Value	Predicted y Value No	Yes	% Correct	Commited Observed y Value	Predicted y Value No	Yes	% Correct
No	57,359	73	99.9	No	49,277	1,258	97.5	No	5,174	483	91.5
Yes	6,180	92	1.5	Yes	6,789	1,746	20.5	Yes	2,215	663	23.0
Overall Percentage			90.2	Overall Percentage			86.4	Overall Percentage			68.4
The cut value is .500				The cut value is .500				The cut value is .500			

** *Signifies significance at or above the .001 level.*
* *Signifies significance at or above the .05 level but below the .001 level.*

Conc. Delinq. is an abbreviation for concurrent delinquency; Pr. Delinq. Ref. is an abbreviation for prior delinquent referral(s); Pr. Status Ref. is an abbreviation for prior status referral(s); df is an abbreviation for degree(s) of freedom. Chi-Sq. is an abbreviation for chi-square; Chi-Square statistics reported in connection with logistic regression models are calculated based upon the reduction in -2LL and serve as a measure of the model's significance.

tion (6% to 13%) (see Table 5).

The model specified to predict commitment is statistically significant, and each of the independent variables specified as predictors of commitment makes a statistically significant contribution to being committed (see Table 5). Again, being held in detention makes the largest relative contribution to commitment followed by prior delinquency, concurrent delinquency, being processed by a circuit with a detention facility, age, prior status referrals, offense, and, lastly, race. As at the detention stage, being Black increases a child's chance of confinement as does being older, possessing a prior record, being charged with multiple and more serious offenses, and being processed by a circuit without a detention facility. The model's ability to predict commitment is reasonably good (23%), although the model still leaves a great deal of variance unexplained, somewhere between 90% and 93% according to the pseudo R^2 measures.

TABLE 6
Logistic Regression Using White and Black Boys Only

VARIABLES IN THE EQUATION

	Detention			Adjudication			Commitment		
	Log. Coeff.	S.E.	Wald	Log. Coeff.	S.E.	Wald	Log. Coeff.	S.E.	Wald
Race (white = 1)	-0.729**	0.034	460.415	0.220**	0.035	40.509	-0.108	0.061	3.136
Offense	0.249**	0.007	1,140.229	0.142**	0.007	407.469	-0.031*	0.012	6.198
Conc. Delinq.	0.163**	0.016	104.616	0.274**	0.017	255.499	-0.132**	0.025	27.822
Pr. Delinq. Ref.	0.032**	0.003	108.802	0.063**	0.003	439.893	0.040**	0.005	65.113
Pr. Status Ref.	0.015	0.007	5.119	0.027**	0.006	22.383	0.033**	0.010	10.746
Age	0.173**	0.010	285.018	0.039**	0.008	21.860	0.122**	0.019	39.620
Detention Facility	0.581**	0.048	147.239	-0.093*	0.036	6.740	-0.393**	0.068	33.564
Detention				1.832**	0.038	2,342.184	0.935**	0.058	257.086
Constant	-6.065**	0.158	1,482.849	-3.733**	0.124	910.467	-2.306**	0.285	65.536
	Chi-square	df		Chi-square	df		Chi-square	df	
	3666.241**	7		5357.201**	8		461.880**	8	
	-2 LL	C & S R^2	Nagel. R^2	-2 LL	C & S R^2	Nagel. R^2	-2 LL	C & S R^2	Nagel. R^2
	26,392.724	0.080	0.161	30,831.289	0.122	0.209	7,974.681	0.068	0.094

CLASSIFICATION TABLE FOR DETENTION

Detained Observed y Value	Predicted y Value No	Yes	% Correct
No	39,349	125	99.7
Yes	4,562	164	3.5
Overall Percentage			89.4
The cut value is .500			

CLASSIFICATION TABLE FOR ADJUDICATION

Adjudicated Observed y Value	Predicted y Value No	Yes	% Correct
No	33,465	1,059	96.9
Yes	5,063	1,526	23.2
Overall Percentage			85.1
The cut value is .500			

CLASSIFICATION TABLE FOR COMMITMENT

Commited Observed y Value	Predicted y Value No	Yes	% Correct
No	4,024	333	92.4
Yes	1,783	449	20.1
Overall Percentage			67.9
The cut value is .500			

Looking only at boys (see Table 6) reveals that offense is once again the biggest contributor to detention followed by race, age, presence of a detention facility, prior delinquency, and concurrent delinquency. Thus, older Black boys with prior delinquency records who are charged with serious and multiple offenses and are processed by a circuit with a detention facility are the most likely to be detained (see Table 6). While the model is significant, the model is still poor at correctly predicting imposition of detention (3.5%). Removing girls from the analysis does improve explained variance to some degree (compare Tables 5 and 6).

The model not only remains significant at the adjudication stage, but all of the independent variables significantly contribute to the adjudication determination (see Table 6). Detention status is the most influential factor, followed by prior delinquency, offense, concurrent delinquency, race, prior status referral, age, and presence of a detention facility. Removing girls from the analysis does not substantially alter the model's ability to classify cases, although it does somewhat enhance the ability to correctly predict when a case will result in an adjudication of "guilty" (compare 23.2% with 20.5%) (see Tables 5 and 6). The model's ability to explain variance is also somewhat improved by the removal of girls (compare Tables 5 and 6).

At the commitment stage, race loses significance, but the other variables contained in the model remain significant, as does the overall model. Detention status remains the most important determinant of commitment, followed by prior delinquency, age, presence of a detention facility, concurrent delinquency, prior status

referral, and offense. Removing girls slightly reduces the model's overall predictive accuracy as well as its ability to correctly predict commitment (compare Tables 5 and 6). Explained variance in the commitment decision is also slightly reduced when only boys are examined.

Discussion

Descriptive analysis of the data makes clear that Blacks are disproportionately represented vis-à-vis their proportion of the population at the referral, detention, adjudication, and commitment stages, but that disproportionality does not appear to aggregate as they move through the system. Blacks are 17.50% of Missouri's youth population, 27.91% of the referred population, 44.79% of the detained population, 31.17% of the adjudicated population, and 34.78% of the committed population (see Table 3). These figures indicate that Blacks continue to be disproportionately represented at each stage in the process vis-à-vis their proportion of the general population, but the pattern of accumulating disadvantage breaks down after the detention stage. Indeed, proportionally speaking, fewer Blacks are adjudicated than detained, although a larger proportion of Blacks are committed than adjudicated.

The disproportionality picture is even bleaker when only Black males are considered, but once again their disproportionality does not appear to be aggregating (see Table 3). Black males are 8.75% of Missouri's youth population, 19.93% of the referred population, 36.70% of the detained population, 24.86% of the adjudicated population, and 27.47% of the committed population. As when minorities of both genders are considered, the pattern of accumulating disadvantage breaks down after the detention stage.

The regression analyses mirror these descriptive findings in that they also suggest that minority disadvantage does not accumulate as children move through the system. The adverse influence of race on Black children in general and Black boys specifically is strongest at the detention stage. In fact, race is second only to offense as a determinant of detention (see Tables 5 and 6). Using the modal category of each of the control variables to calculate the probability of detention for the typical case reveals that Black children have a 13.24% chance of being detained while similarly situated White children have only a 7.81% chance of being detained.[23] Racial differences in the probability of receiving detention are even more pronounced among boys. Again using the modal categories as a basis for calculating the probability of detention reveals that White boys have only a 7.34% chance of being detained while similarly situated Black boys have a 14.11% chance of being detained.

While being Black substantially increases a child's chances of being detained, the race effect is reversed at the adjudication stage and it is Whites who are adversely affected by their racial status (see Table 5). These results indicate that once the detention decision is controlled for, being Black does not directly, incrementally increase a child's chances of being adjudicated. Quite the contrary, it appears that being Black actually reduces a child's chances of being adjudicated once detention status is controlled.

Perhaps the greater propensity to detain Black children indicates that unless the case against the child is legally weak, Black children tend to be detained. If this is so, nondetained Black children would be more likely to have legally weak cases and thus less likely to be adjudicated than nondetained White children. This may account for the seeming "leniency dividend" Black children receive at the adjudication stage once the detention decision is controlled. Unfortunately, due to data limitations, a qualitative assessment of the strength of the state's case is not possible here so this theory cannot be substantiated.

It is also worth noting that while these results suggest that the cumulative disadvantage hypothesis does not adequately explain the functioning of the juvenile justice system in Missouri, they do not necessarily mean the adjudication decision is not indirectly influenced by race to the detriment of minority children. Race is a relatively minor contributor to the adjudication decision but a relatively major contributor to the detention decision (see Table 5). The detention decision is then the primary contributor to the adjudication decision. What this means is that being Black increases one's chances of being detained and being detained increases one's chances of being adjudicated. This state of affairs suggests that being Black indirectly influences one's chances of being adjudicated. Thus, the results of this study do not permit the inference that the adjudication decision is free of racial bias, although they do suggest that disadvantage does not simply accumulate in a unidirectional manner as the child moves through the system, as is suggested by the cumulative disadvantage hypothesis.

At the commitment stage, race once again

contributes to the harsher treatment of minorities. Being Black makes a significant, albeit relatively small, contribution to the decision to commit the child (see Table 5). Because the detention decision is controlled and the adjudication decision is held constant in the model assessing commitment, these results suggest that Black children do suffer some incremental increase in disadvantage as they move through the commitment stage. Thus, Black children could be said to be accumulating disadvantage between the detention and commitment stages.

The regression results pertaining to boys only generally track the regression results obtained by analyzing both boys and girls, although race is of no significance at the commitment stage among boys (see Table 6). While these results provide little evidence that Black boys are particularly likely to accumulate disadvantage as they move through the system, they do provide evidence that the synergistic influence of race and sex contributes substantially to the decision to detain Black males. Although being Black is the second largest contributor to receiving detention regardless of whether just boys or both boys and girls are analyzed, the magnitude of the impact of race is significantly greater among boys than it is among boys and girls (compare Tables 5 and 6).[24] This suggests that being Black makes a bigger contribution to the decision to detain Black boys than Black girls, which indicates that at the detention stage Black boys are subjected to particularly punitive treatment.

Conclusion

Some of these findings are suggestive of racial discrimination at some of the stages studied, but the results do not show a clear pattern of accumulating disadvantage. To the contrary, this study suggests that rather than accumulating as a child moves through the system, racial effects are localized at points in the process where decisions regarding the confinement of juveniles are being made. It may be that race loses its influence at the adjudication stage because legal factors relevant to the strength of the state's case are of paramount importance.

Race may retain its influence at confinement points because juvenile court judges are afforded so much discretion in deciding whom to detain and/or commit (Feld, 1999; Frazier, 1989; Ohlin, 1993). Unstructured discretion, such as that afforded juvenile court judges at the detention and commitment stages, permits decision-makers to countenance impermissible factors such as race (Frazier, 1989; Pope & Feyerherm, 1990; Thomas & Cage, 1977) and may be responsible for the significant race effects found at the detention and commitment stages (see Table 5).

Perhaps the strongest racial effects are found at the detention stage because juvenile court judges are forced to make detention decisions quickly and without benefit of fully developed, individualized information, such as is usually available at the commitment stage.[25] As a result, judges may be more inclined to rely on stereotypes or other suppositions that work to the detriment of minorities when they summarily decide who should be detained pending an adjudication hearing (Krisberg & Austin, 1993).

Given the large amount of unexplained variance, it must also be noted that other factors not measured by these data must be playing an important role in the decisions to refer, detain, adjudicate, and commit juveniles. Such factors may include family circumstances, such as being from a single parent home (Thomas & Cage, 1977) or being from a family with few economic resources (McCarthy & Smith, 1986; Thomas & Cage, 1977). Unfortunately, data limitations prevent exploration of the impact of these factors.

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END NOTES

[1] Disproportionate minority confinement is defined by the JJDPA as existing when "the proportion of juveniles detained or confined in secure detention facilities, secure correctional facilities, jails, and lockups who are members of minority groups . . . exceeds the proportion such [minority] groups represent in the general population." 42 USCS 5633 (a) (23) (2001).

[2] This DOJ report uses data from 1996-97 and indicates that nationwide Blacks were 15% of the juvenile population, 30% of the referred population, 45% of the detained population, and 66% of the publicly confined population.

[3] According to Poe-Yamagata and Jones' data, minorities constituted the following proportions: population = 15%, arrest = 26%, referred to the juvenile court = 31%, detained = 44%, adjudicated delinquent = 32%, residential commitment = 40%. Disproportionate diversion of minorities from the juvenile justice system may account for the decrease in disproportionality at the later stages of the process (waiver to adult court = 46% and admitted to state prison = 58%) (2000).

[4] Because Missouri has very small Asian and Native American populations, it is an unsuitable venue for the exploration of how those racial statuses influence the treatment of children within the juvenile justice system.

[5] The circuit court for Jasper County experienced computer problems in 1997 that resulted in the loss of most of their data. Because the remaining data, 285 cases, were not representative of the cases processed by Jasper County, they were removed from the dataset.

[6] A child was defined as detained if he or she spent any time in a secure (N=5,464) or nonsecure (N=847) detention facility prior to their adjudication hearing. An adjudication hearing is the juvenile analog to an adult criminal trial. This hearing determines whether the child committed the delinquent or status offense(s) alleged in the petition.

[7] Nine cases out of 64,466 cases that are the subject of this study lack data as to whether or not the child was detained. This represents an omission with regard to less than .014% of the study cases.

[8] Being adjudicated is the juvenile analog to an adult conviction.

[9] Seventy-two cases were improperly coded, 283 cases were dismissed for certification to the adult system and 4,317 cases were transferred to another juvenile court. All 4,672 of these cases were removed from the analysis for purposes of assessing adjudication and commitment.

[10] The children involved in the remaining 51,199 (85.63%) cases were not formally adjudicated or "convicted" of any offense(s). Most of the cases that did not result in an adjudication were informally adjusted (N=35,190). The remaining 16,009 cases resulted in either diversion to a social service agency, or dismissal due to prosecutorial rejection or failure to carry the state's burden of proof at the adjudication hearing.

[11] Juvenile court personnel determined which offense was the major or most serious offense. Presumably, statutory classification and common sense guided this determination.

[12]
- 11 = deliberate lethal felonies (e.g. all degrees of murder and voluntary manslaughter);
- 10 = violent sexual felonies (e.g. forcible rape, forcible sodomy);
- 9 = other felonies against persons (e.g. robbery, 1st and 2nd degree assault);
- 8 = other sexual felonies (e.g. statutory rape, sexual assaults not involving force, weapons, etc.);
- 7 = felonies against property (e.g. burglary, forgery, stealing over $150);
- 6 = drug offenses (e.g. possession, possession with intent to distribute);
- 5 = public order offenses (e.g. prostitution, disturbing the peace);
- 4 = misdemeanor against people (e.g. 3rd degree assault)
- 3 = misdemeanor against property (e.g. stealing less that $150);
- 2 = runaway;
- 1 = other status offenses (e.g. truancy, curfew, incorrigibility).

[13] Black females had a mean of .84 while White males had a mean of .99 for concurrent delinquency.

[14] Cases indicating an age of referral of less than seven or more than 17 were coded as missing on the age variable on the assumption that these ages were incorrect. This affected only 1.16% (N=747) of the cases included in this study.

[15] Black girls have a mean referral age of 14.17, Black boys have a mean referral age of 14.13.

[16] White girls have a mean referral age of 14.39 and White boys have a mean referral age of 14.15.

[17] The presence of detention facilities is not simply an urban phenomenon in Missouri. While some facilities are located in urban areas, such as the 16th (Kansas City) and 22nd (St. Louis City) Circuits, others are located in very rural areas, such as the 30th (Benton, Dallas, Hickory, Polk, and Webster Counties) and the 44th (Douglas, Ozark, and Wright Counties) Circuits.

[18] Kids Count Missouri ("KCM") is a collaborative effort involving more than thirty public and private organizations dedicated to improving the welfare of Missouri's children. Citizens for Missouri's Children, the Children's Trust Fund, and the University of Missouri's Office of Social and Economic Data Analysis are among the major participants in the KCM and are involved in the KCM's most important annual task,

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compiling and publishing the Kids Count in Missouri Data Book. The data compiled for this annual report are drawn from a number of reliable sources. Data pertaining to percentage of minority, the data used in this study, were gathered from the United States Department of Commerce, Bureau of the Census and the Missouri Office of Administration, Division of Budget and Planning. The Kids Count Missouri 1998 Data Book, including the data pertaining to the minority youth population used in this project, is available via the World Wide Web at http://oseda.missouri.edu/kidscount/98/index.html.

[19] This figure includes all minorities, not just Blacks. Thus, it provides a conservative estimate of disproportionality.

[20] The Kids Count Missouri 1998 Data Book does not provide statistics concerning the gender of the youth population, but since there is no reason to believe that one sex is substantially disproportionately represented among minority children, this is probably a safe assumption.

[21] The only exceptions are Sex and Detention Facility, neither of which is significantly correlated with Commitment.

[22] A significant Wald statistic permits one to reject the null hypothesis that the logistic regression coefficient is equal to zero and thus establishes the statistical significance of the relationship between the independent and dependent variables (Bachman & Paternoster, 1997:579). In addition, the Wald statistic permits one to rank the independent variables in terms of their relative impact on the dependent variable. When comparing more than one logistic regression coefficient, a larger Wald statistic suggests greater impact (Bachman & Paternoster, 1997:603-04).

[23] The modal category for offense is three, misdemeanor against property, for concurrent delinquency it is one, for prior delinquent and status offenses it is zero, for age it is 16 and for detention facility it is 1, indicating the presence of a detention facility.

[24] To make this determination, I conducted the test described in Brame et al., 1998. This test establishes whether the observed difference between a regression coefficient in one population (here, boys only) is significantly different from the same coefficient in another population (here, boys and girls).

[25] Once a juvenile is in custody, juvenile court judges in Missouri are supposed to hold a detention hearing within three days (see Rule 111.07 of the Missouri Supreme Court Rules, Rules of Practice and Procedure in Juvenile Court (1997)).