

A Test of the Transcarceration Hypothesis: The Effect of Welfare on Coercive Control

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Abstract

Research on the relationship between threatening populations and conditions, and mechanisms of social control has increased steadily since the publication of Blalock's, Theory of Minority Group Relations, in 1967. Blalock's theory of social threat and social control asserts that unique types of threat elicit distinct forms of social control. Social threat theorists typically present two types of social control: coercive controls and placative controls. Coercive controls include incarceration, arrest, and other types of formal state surveillance. Placative controls include programs and/or institutions, like welfare and mental health services, which protect or aid people in some way. Much of social threat research examines how certain populations or social conditions affect measures of social control. However, recently researchers have begun to examine the extent to which forms of social control are related to one another. This is typically referred to as the "trade off" hypothesis, which asserts that there is an inverse relationship between forms of social control. To test this hypothesis, the researcher will perform a meta-analysis of studies that explore the relationship between two macro forms of social control: welfare (placative), and incarceration and arrest (coercive).

Keywords: Surveillance; Incarceration; Transcarceration; Unemployment

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Since 1980 the number of people incarcerated in the United States has increased from 500,000 to almost 2 million [1,2]. This represents a 300 percent increase in the rates of incarceration. According to Garland [3], this dramatic increase in coercive control is caused by "the culture of control". The culture of control represents a shift in the social control ideology away from welfarism to increased punitiveness. Garland suggests that there has been a cultural transformation of attitudes surrounding the appropriate method for addressing issues such as crime and threatening populations. Until the 1970s, American culture supported more placative and rehabilitative methods to address social problems and marginal populations. Beginning in the 1970s, public sentiments on how to address these issues began to shift towards measures that were more punitive. Cohen [4] also discussed a shift in control ideology. However, at the time he stated that there was movement away from "exclusionary" controls such as prison to more inclusive types of control such as welfare. Both of these arguments, while presenting different pictures of ideological and policy shifts suggest that there is a zero sum relationship between social control institutions [5].

Scull [1] was one of the first to suggest that there is a reciprocal relationship or "trade off" effect between placative and coercive forms of social control. His historical and descriptive analysis of mental health institutionalization and incarceration revealed that as mental health services increased incarceration decreased. However, the Decarceration trend discovered by Scull in the 1970's was not predictive of the growth in coercive control witnessed since then.

As previously suggested, one possible explanation of the increase in coercive controls in the "trade off" hypothesis. Recent trends in incarceration suggest that as coercive controls increase other forms of social control are decreasing. For instance, Garland asserts that the decline of welfarism as a social program was met by an increase in the use of coercive controls.

The seminal work of Piven and Cloward [6] was the first to examine welfare as a form of social control. Their historical review found that welfare was used in periods of social unrest to placate threatening populations. Conceptualizing welfare as a form of social control set the stage for future researchers interested in the relationship between macro forms of social control.

Recent scholars have undertaken an examination of the relationship between social control institutions. There are three possible hypotheses concerning the relationship between macro forms of social control. The first is simply that there is no statistically significant relationship between placative and coercive forms of social control. In addition, it is logically and theoretically sound to discuss the possibility that social control institutions have a positive relationship with one another.

Following the work of Spitzer and other social threat and social control theorists provides a logical and theoretical basis for this hypothesis. Spitzer asserts that economic conditions produce surplus populations that must be controlled. The presence or magnitude of these populations has driven the bulk of social threat and social control research. One could logically assume that the presence of "social junk" and "social dynamite" might elicit increases in both placative and coercive forms of social control. Foucault argues that one cannot think of social control institutions as unique and separate entities. Inclusive and exclusive control entities are all part of the larger power structure in society. Foucault's conception of social control indicates that social groups and/conditions that trigger control strategies affect the system

as a whole. These theories indicate that a positive relationship between macro forms of social control is not due to a true causal connection, but merely represents a spurious association based on common antecedent factors.

Finally, the general hypothesis developed from the work of Garland, Piven and Cloward, and Scull is that there is a negative relationship between macro forms of social control. More specifically, it is assumed that as placative forms of social control decrease more coercive forms of control increase. The historical account presented by Box and Hale [7] support this assertion. They claim that the 1970s War on Poverty coincided with a reduction in prison admissions. Those admissions rose after efforts to “roll back” welfare expansion in the early 1980s. This review uses meta-analysis to test the hypothesis that as welfare decreases the use of incarceration and arrest as forms of social control increases.

Method

There were several criteria for inclusion in the meta-analysis. First, the studies had to test the hypothesis that welfare had an effect on incarceration or arrest. Second, only studies that employed multivariate regression analysis (or some variation) were chosen for review. Studies that only presented descriptive analysis or bivariate relationships were not appropriate for the analysis. Third, the research needed to have an independent measure of welfare in the regression model. For example, if the measure of welfare was used in conjunction with other measures to create an inequality index then the researcher excluded the study from consideration. In addition, the welfare variable had to, at a minimum, conceptually measure means tested programs intended to aid the poor. English was the only language considered for inclusion in the review.

The study employed various techniques to locate articles for inclusion in the review. These methods include electronic database searches, bibliography review, private emails, and citation searches. These techniques yielded 19 studies of the relationship between placative and coercive control. Of these studies, only 15 met the selection criteria.

The easiest technique for locating relevant studies was the use of electronic databases. The largest database searched was the FirstSearch database. ArticlesFirst, AltPressIndexArchive, ECO, PAIS, WorldCat, SocialSciIndex, PapersFirst, and WilsonSelectPlus were all searched in the FirstSearch database. In addition, the research searched these databases: JSTOR, LexisNexis, ISI Web of Science, Academic Universe, Dissertation Abstracts, Dissertations at Florida State and EconLit. A general google search was also conducted to locate unpublished online materials. The researcher searched the Justice Information Center of the National Criminal Justice Reference Service and the National Institute of Justice online publication list.

The database searches including a variety of search terms. Placative control terms included these search terms: welfare, economic assistance, economic aid, unemployment benefits, income redistribution, Aid to Families with Dependent Children, income maintenance, cash transfer, income transfer, transitional aid, means tested programs, in-kind transfer, public assistance and social insurance benefits. These terms were paired with one of the following coercive control terms. Prison, incarceration, prison admission, imprisonment, jail, probation, social control, coercive control, parole, juvenile admissions, punishment, punitive, police, arrest, police expenditures, police strength and municipal expenditures.

Transcarceration and “trade off” hypothesis were also used as general search terms.

The terms for placative control and coercive control were paired and entered into each database search field. The researcher entered terms into the first page, abstract, and keyword search fields. The reviewer used each of the term combinations in all of the databases and searched the years 1970 to 2003.

The initial search did not yield an adequate number of studies for the review. To search thoroughly the literature on social threat and social control, the research expanded the search criteria to include studies that might control for a measure of welfare. This was accomplished by further searching with these social threat terms: economic inequality, race, racial disparity, poverty, minority, economic structure, unemployment, and labor market. These terms were paired with all of the coercive control terms.

The online databases were not the only techniques used to find studies testing the “trade off” hypothesis. The research also conducted citation reference and bibliography searches of relevant authors and studies. In addition, recent authors who explored the relationship between welfare and coercive control were contacted via email. The researcher inquired about the possibility of unpublished manuscripts relevant to the review and for information on other possible sources. Finally, the reviewer manually searched through the most recent publications of *Criminology*, *Crime and Delinquency*, *American Journal of Sociology*, *Journal of Criminal Justice*, *American Journal of Political Science*, *Political Science Review*, *Journal of Quantitative Criminology*, *Journal of Research in Crime and Delinquency*, *Law and Society Review*, *Social Forces*, *Social Problems*, *Social Science Quarterly*, and *Sociological Quarterly* for relevant studies.

The literature search yielded twenty articles that address the relationship between macro forms of social control. Two of the studies did not empirically test the relationship between welfare and coercive control. In addition, two of the studies did not measure welfare as programs aimed at protecting the poor. Finally, one of the studies did not have an independent measure of welfare.

Review of Findings

When conducting a meta-analysis the researcher must decide the criteria for “counting up” the findings. The present analysis used individual unique estimates of the welfare and coercive control relationship as the unit of analysis. Many of the studies reviewed by the researcher contained multiple estimates of the welfare and coercive control relationship. These estimates were considered unique if the measure of welfare and/or coercive control were conceptually distinct. For example, Johnson [8] included two conceptually different measures of welfare in his model as well as five distinct measures of coercive control. Each of Johnson’s welfare-coercive control coefficients were recorded as unique estimates of the relationship between macro forms of social control. In cases where there were multiple estimates in the same study but the measures of the independent and dependent variable were not conceptually distinct, the estimate from the model with the most control variables was included in analysis. Beyond these criteria, estimates from the most statistically sophisticated model or estimates from models with the largest coefficient of determination were chosen for inclusion in the meta analysis. Using unique and independent estimates ensures that the meta-analysis is not affected by one or two studies with an unusually large number of estimates.

Table 1 provides a description of all of the studies included in the analysis. There were 15 studies with forty total estimates of the welfare coercive control relationship. The studies were coded on the following characteristics: author, date of publication, study setting, time period

of study, unit of analysis, sample size, measure of the independent and dependent variable, the number of control variables, and control for poverty, estimation technique, and welfare as Table 1.

Study	Study Setting/ Time Period	Sample Size/ Unit of Analysis Years	Measure IV	Measure DV	Control Var.	Est. Method	Control Poverty	Welfare Primary Variable	Two Way Relat.	Finding Sign. Level
1. Grabosky 1980	U.S. 1930-70		Total Welfare \$	Incar. Rate State Per Cap. Corr. \$\$	6	OLS	No	No	No	+, NS
2. Wallace 1980	U.S. 1976	50 States	Avg. AFDC Per Recip		7	OLS	No	No	No	-, p>.0668
				Conditional Release Rate	8	OLS	No	No	No	-, .0099
				Incar. Rate	9	OLS	No	No	No	-, p>.0668
3. Inverarity and Gratett 1989	U.S. 1948-85	36 Years	AFDC Recipient Per Capita	Prison Adm. Rate	6	OLS	No	No	Yes	+, .3707
4. Gloria Lessan 1991	U.S. 1948-85	36 Years	Total \$ 1948-1985	Change in Prison Rate	5	OLS	No	No	Yes	-, .4286
5. Johnson 1992	States 1983	50 States	Avg. AFDC Per Recip	Prison Adm.	19	OLS	No	No	No	-, .05
				Probation Adm.	19	OLS	No	No	No	-, p>.05
				Parole Adm.	19	OLS	No	No	No	-, .05
				Juvenile Adm.	19	OLS	No	No	No	+, p>.05
				Jail	19	OLS	No	No	No	+, p>.05
6. Delone 1992	States 1987	50 States	Avg. AFDC Per Recip	Prison Adm.	19	OLS	No	No	No	-, .01
				Probation Adm.	19	OLS	No	No	No	+, p>.05
				Parole Adm.	19	OLS	No	No	No	+, p>.05
				Juvenile Adm.	19	OLS	No	No	No	+, p>.05
				Jail	19	OLS	No	No	No	+, p>.05
7. Schissel 1992	FL County 1981-83; 1985-87	402 County-Years	Avg. AFDC Caseload	Prison Adm.	19	SEM	Yes	No	Yes	?, NS
8. Smith, Devine and Shelley 1992	Canada 1962-88	25 Years	Total Welfare \$ and Health	Incar. Rate	7	OLS	No	No	Yes	+, .01
9. Hsing 1995	U.S. 1959-87	29 Years	Total Welfare \$	Homicide Arrest	5	OLS	No	No	Yes	-, .0068
				Burglary Arrest	5	OLS	No	No	Yes	-, .0143
				Robbery Arrest	5	OLS	No	No	Yes	-, .001
10. Johnson 1996	States 1991	48 States	AFDC Recipient Per Capita	Drug Arrest	4	WLS	No	Yes	No	+, .001
	U.S 1987	50 States	Avg. AFDC Per Recip	Prison Adm/ 1,00,000	11	Step Reg	No	Yes	No	-, .NS
		44 States		Jail Adm/ 1,00,000	11	Step Reg	No	Yes	No	-, NS

		50 States		Juvenile Adm/ 1,00,000	11	Step Reg	No	Yes	No	-, NS
		50 States		Probation Adm/ 1,00,000	11	Step Reg	No	Yes	No	+, .NS
		50 States	% Pop AFDC/ 1000	Prison Adm/ 1,00,000	11	Step Reg	No	Yes	No	+, NS
		44 States		Jail Adm/ 1,00,000	11	Step Reg	No	Yes	No	-, NS
		50 States		Juvenile Adm/ 1,00,000	11	Step Reg	No	Yes	No	-, NS
		50 States		Probation Adm/ 1,00,000	11	Step Reg	No	Yes	No	-, NS
11. Sutton 2000	U.S, Canada	140 States	Nation % GNP on Unempl. Ins	Incar. Rate***	12	OLS	No	Yes	Yes	-, .001
	New Zealand		Work Comp.							
	United Kingdom		Public Assist							
	Australia 1955-85		Family Allow							
12. Beckett Western 2001	U.S. 1975-95	128 State Years	Total \$\$ Welf and Edu.	Incar. Rate	8	OLS	Yes	Yes	Yes	-, .001
13. Fording 2001	50 States 1962-80	912 State Years	% Pop AFDC/mil	Incar. Rate	13	2SLSR	Yes	No	Yes	-, .001
14. Greenberg and West 2001	50 States 1971-1991	98 State Years	AFDC \$\$ Per Capita	Incar. Rate***	18	OLS	Yes	Yes	Yes	-, .0367
15. Flower 2002	25 States 1991-1996	150 State Years	Yearly Welf. Caseload	FM Arrest	14	2SLSR	Yes	Yes	Yes	-, .0082
				FM Burglary Arrest						-, .117
				FM Robbery Arrest						+, .0336
				FM Assault Arrest						+, .001
				FM Fraud Arrest						-, .3974
				FM Viol. Ag. Child. Arrest						-, .001

*Significant multivariate relationship.

**Welfare data is measured as total spending on AFDC, public assistance, and public relief in real 1982-1984 dollars.

***Includes those in prison and in jail.

Legend: OLS: Ordinary Least Squares regression.

2SLSR: 2 Stage Least Squares Regression.

WLS: Weighted Least Squares Regression.

Step Reg: Stepwise Regression.

Table 1: Description of individual welfare and social control studies.

The primary variable of interest, and sign of findings and significance level. The reviewer coded welfare primary variable “Yes” for studies that were primarily interested in the relationship between welfare and coercive control. Some studies did explicitly test the “trade

off” hypothesis but their primary research objective was not examining the relationship between welfare and social control. These studies were coded “No”. For example, Delone [9] specifically test the relationship between welfare and incarceration (that is welfare is not put in just as a

control variable), however, the primary objective was examining the relationship between labor market conditions and incarceration and probation.

There are two objectives when conducting a meta-analysis. The first is to assess the whole body literature for quality and conclusion. The second objective is to determine if the overall findings were influenced by study design, data characteristics, or research methods. To this end, Table 2 presents a summary of the overall research findings and an analysis of the impact of various study characteristics on the findings. I will begin by discussing the findings presented in the Table 2. A discussion of the overall quality of the studies will follow.

Table 2 describes both the overall research findings and how the findings vary according to differences in measurement, control variables, and research design. A simple “vote count” method reveals that when taken together, 32.5% of the research findings support the hypothesis that there is a negative relationship between welfare and coercive control. The alternate hypothesis, that welfare causes an

increase in coercive control is supported 10% of the time. The results of the non-significant findings can be interpreted in two ways. First the overall pattern of either negative or positive non-significant estimates can be taken as supporting or challenging the hypothesis, or the findings can be read as supporting the null hypothesis. Thirty percent of the research estimates were in the expected direction but not significant and 25% of the findings were positive but also not significant. Another interpretation is that the null hypothesis receives is supported by 57% of the research findings. This indicates that the majority of the research findings support the conclusion that there is no relationship between welfare and coercive control. An alternate interpretation is that 62.5% (significant negative and non-significant negative) of the findings are negative and supportive of the hypothesis, while only 35% are positive and supportive of the idea that welfare is positively associated with coercive control. I will compare each of the subsequent analyses to the overall findings to identify how the pattern of findings supporting the hypothesis change based on study characteristics.

	Total Number of Findings	%-sig.	%-ns.	%ns	%+ns.	%+sig.	%-	%+	%ns
Total Number of Controls	40	32.50%	30%	2.50%	25%	10%	62.50%	35%	58%
0-10	12	41.60%	25%		16.60%	16.60%	66.60%	33%	42%
10 or more	28	28.50%	32%	3.57%	32.00%	3.57%	60.50%	36%	68%
Type of Analysis									
Time-Series	17	52.90%	17.60%		11.70%	17.60%	70.50%	29%	29%
Cross-Sectional	23	17.30%	39%	4.30%	34.70%	4.30%	56.30%	39%	78%
Address Two-Way Causation									
Yes	17	52.90%	17.60%	5.80%	5.80%	17.60%	70.50%	23%	29%
No	23	17.30%	39%		39%	4.30%	56.30%	43%	78%
Measure of Welfare									
Money Measure	30	33.30%	33.30%		30%	3.30%	66.60%	33%	63%
People Measure	10	30%	20%	10%	10%	30%	50.00%	40%	40%
Control for Poverty									
Yes	10	50%	20%	10%	0	20%	70.00%	20%	30%
No	30	26.60%	33.30%		6.60%	33.30%	59.90%	40%	40%
Welfare Primary Variable									
Yes	18	27.70%	44.40%		11%	16.60%	72.10%	28%	55%
No	22	36.60%	18.18%	4.50%	36.60%	4.50%	54.78%	41%	59%
Measure of DV									
Arrest	10	50%	20%		0	30%	70.00%	30%	20%
Incarceration	30	26.60%	33.30%	3.30%	3.30%	33.30%	59.90%	37%	40%

Table 2: Summary of research findings for welfare and coercive control.

The first comparison examines the effect of including less than ten or more than ten control variables in the regression models. There is no clear methodological imperative to include a large number of

control variables. However, the assumption is that better studies have more control variables because the research has fully explored all of the

possible confounding factors and includes them in the research. In short, more is generally thought of as better.

The analysis indicates that studies with fewer than 10 control variables have far more significant findings than those with more controls. In addition, those studies with less than 10 controls offer more support for the hypothesis (41.6%) than studies with more than 10 controls (28.5%). This may indicate that welfare is an intervening variable and once the antecedent variable is controlled for, welfare's effect on coercive control is disappears.

Many have argued that the relationship between macro-forms of social control is best detected using time series data [10,11]. The argument is that researchers will not be able to capture trends in social control techniques using cross-sectional data. The analysis of the research findings for cross-section and time-series analysis seems to vindicate this assumption. The striking difference in between the two techniques is the percentage of significant finding. Time series analyses yielded estimates that were significant 70% of the time while cross sectional designs only produced significant estimates 21% of the time. This indicates that regardless of the direction of the relationship, time-series studies are more likely to find significant relationships. In addition, time series analysis had a much higher percentage of negative and significant findings than studies employing cross sectional techniques. Finally, the percentage of findings supportive of the hypothesis improves from 32.55 in the overall findings to 52.9% in studies using time-series designs. These findings from this analysis indicate the type of research design used in a study does have a significant impact of the research findings. Further, these results are supportive of the trend found in the overall findings.

One of the benefits of using time-series analysis is that it allows researchers to address the issue of two-way causation. There are various techniques employed in the welfare-coercive control literature to address this issue. For example, Inverarity and Grattet [4] included lagged versions of the variables in the regression model to control for the possibility that the dependent variable had a causal effect on one of more of the independent variables. Other authors, such as Flower [12], used two-stage least squares regression to model the reciprocal relationships between the dependent and independent variables. The consequence of not addressing the issue of two-way causation is a correlation between the error term and one or more of the independent variables. This results in biased and inconsistent estimates. For instance, Flower's research employs two-stage least squares regression techniques. However, there are theoretical reasons to believe that her instrument could affect both the independent and dependent variables. Without appropriate instruments, the regression coefficients will be biased and inconsistent. Flower reports this problem in her research analysis. The regression estimates were very unstable and subject to change with minor modifications in the sample.

The results of the two-way causation analysis are essentially the same as the analysis of findings from cross-sectional and time-series studies. Unfortunately, there is not enough variation in the time-series studies to determine if addressing the issue of two-way causation (other than simply using time-series data) affects the study outcomes.

In addition to two-way causation concerns, there is reason to believe that the measurement of the independent variable may also have an impact of the study findings. The analysis group measures of welfare into two broad categories. The first category measures welfare as a dollar amount. For example, this includes measures of total

spending on welfare and aid programs and the average Aid to Families with Dependent Children per recipient. The second measure of welfare captures the number of people receiving benefits. The two measures are conceptually distinct.

Piven and Cloward [6] suggest that it is the number of people in need receiving benefits that is most important in any analysis of the role of welfare as a social control mechanism. Therefore, there is reason to believe that the "people" measures may be associated with estimates that are more supportive of the hypothesis. However, this is not what the analysis reveals. The "people" measure of welfare is equally likely to produce estimates that are consistent and inconsistent with the hypothesis (30% and 30%). The welfare spending models produce only slightly more negative and significant estimates than the "people" models (33% and 30% respectively). The significant finding in this analysis is that using a measure of the number of people receiving benefits increase the percentage of findings that contradict the hypothesis (30% versus 10% in overall findings).

One of the problems with using the number of people receiving economic assistance as a measure of welfare is that it is an indirect measure of poverty. Given the correlation between welfare and poverty it is important to control for poverty in the regression model to separate the effects of welfare from the effects of poverty. Failing to control for poverty might skew the welfare coercive control relationship in a positive direction. This is based on the theoretical assumption that poverty is positively related to incarceration and arrest. Therefore, studies that isolate the effect welfare should produce findings consistent with the research hypothesis. The analysis of poverty control and poverty non-control studies indicates that this is the case. Studies that control for poverty are almost twice as likely to produce estimates consistent with the hypothesis that there is a negative relationship between welfare and coercive control (50% and 26.6% respectively).

It is also possible that studies specifically interested in the relationship between placative and coercive forms of control will also produce more findings consistent with the hypothesis. However, examining welfare as primary variable analysis does not support this assumption. This comparison indicates the studies expressly interest in the welfare and coercive control relationship produce estimates that are supportive of hypothesis of all comparison groups (27.7%). In addition, support for the hypothesis fell from 32.5 in the overall findings to 27.7% in studies directly examining the relationship between macro forms of control. One possible explanation is that studies interested in such a relationship are more knowledgeable about what factors affect both the independent and dependent variables. These studies may accurately reflect the true relationship between welfare and coercive control when the researcher accounts or controls for important confounders.

The final comparison assesses the pattern of findings across the two different measures of the dependent variable: incarceration and arrest. Much of the theoretical discussion on the relationship between welfare and coercive control focuses on incarceration. Evidence is provided for this by the number of incarceration estimates versus arrest estimates (30 and 10 respectively). In addition, all three of the arrest studies in the review use arrest as a proxy for crime. In other words, the researchers were not interested in the relationship between welfare and coercive control; their primary interest was the relationship between welfare and crime. This indicates that there has yet to be any real empirical interest in the relationship between welfare and arrest (using arrest as a measure of social control). Given the lack of clear theoretical

linkages between welfare and arrest one might expect the incarceration models to provide more support for the welfare-coercive control hypothesis. The analysis reveals that the percentage of findings supportive of the hypothesis is much lower for studies that measure coercive control as incarceration. Twenty-six percent of the incarceration studies support the hypothesis while 50% of the arrest studies support the hypothesis. Perhaps welfare has an immediate impact on communities resulting in fewer arrest and the effects of welfare on incarceration are naturally a slower process and/or indirect.

The final three columns of table two sum the findings by the total percentage of positive and negative findings and by the total number of non-significant findings. Again, there are two ways to read these results. One could assume that negative insignificant findings are indicative of a negative relationship or one could assume that such a finding supports the conclusion that there is not relationship between welfare and coercive control. This summary indicates that across various comparisons, the findings are generally negative (percentages range from 54 to 72 percent). There is not a single comparison where the percentage of positive findings exceeds that of negative findings. This may suggest that the relationship between welfare and incarceration and arrest is negative. However, a review of the null findings (range from 29 to 78 percent) suggests the opposite, that there is no relationship between placative and coercive control. Therefore a

more conservative conclusion, based on this review of the findings is that an increase in welfare does not lead to a decrease coercive control.

Statistical Analysis

Vote counting procedures are only one way to describe and assess the relationship between welfare and coercive control. Other techniques allow meta-analyst to test the robustness of the research findings (Table 3). The first of such methods is the sign test, which is performed on the individual estimates from the multivariate regression models. The sign test requires adding up all of the findings supporting the hypothesis. Then subtracting the number of estimates divided by two. This number is then divided by the square root of the total number of estimates divided by two. The computation of the sign test for these research findings is presented below.

$$[25 - 94/(2)]/\sqrt{40/2} = 1.58$$

This procedure yields a value of 1.58. This value does not fall between .05 and .075 significance, therefore the results are not significant. The sign test indicates that within this body of research it is possible to produce 25 findings supportive of the hypothesis by chance alone.

Sign Test Study	Measure IV	Measure DV	Sign Multivariate
1. Graboksy	Total \$\$ Welfare	Incar. Rate	-
2. Wallace 1980	Avg. AFDC Per Recip.	State Per Cap. Corr. \$\$	+
		Conditional Release Rate	+
		Incar. Rate	+
3. Inverarity and Gratett 1989	AFDC Recipient Per Capita	Prison Adm. Rate	-
4. Gloria Lessan 1991	Total \$\$ 1982-1984	Change in Prison Rate	+

Table 3: Meta-analyst to test the robustness of the research findings.

The final two procedures are the adding Zs and the fail safe N. The bivariate corrections between welfare and coercive control are included in these two analyses. The adding Zs procedure indicates whether the sum of the research findings is likely due to chance alone. The technique requires the summing of all Z scores, then dividing that value by the square root of the sum of all samples. The adding Z's equation for this review is provided below.

$$-92.12/\sqrt{1589} = -2.3$$

The associated p value for a Z score of 2.3 is .01. This indicates that the overall body of findings is significant and that there is only a 1 percent change that the results are due to chance alone.

The final test of the study findings is the fail-safe N technique. This method indicates the total number of findings needed to overturn the meta-analysis conclusion. The procedure involves summing the Z scores and dividing by 1.645. This value is then squared and then the total number of estimates is subtracted from the total. The equation produced by these results is presented below.

$$(-1.645/1.645)^2 - 31 = -30$$

A -30 indicates that no studies would need to be discovered to overturn the synthesis conclusions.

Conclusion

The results of the "vote counting" procedure indicate that there are more null findings in the overall group of results than estimates indicating either a negative and significant or positive and significant relationship between welfare and coercive control. The conservative conclusion based on these findings is that there is not relationship between these forms of social control. However, there are two reason to speculate that there is a relationship between welfare and crime. First, most of the studies reviewed suffered from serious methodological problems. Second, when one examines the more technically sound studies the findings suggest that there is a significant negative relationship between welfare and coercive control.

Many of the studies reviewed in this analysis had methodological problems. These problems fall within three categories: measurement, control, and reciprocal relationships.

Many of the articles used a measure of welfare that captured more than spending on programs to aid the poor. For example, Schissel's

[13] measure of welfare included spending on welfare and health programs (which is significant since there is complete medical coverage in Canada) and Sutton [14] measured welfare as the total spending on unemployment protections and economic aid for the poor. In addition, Beckett and Western [15] included spending on education in their measure of welfare. These inconsistencies in measurement make it difficult to compare results across studies. Previous research and theory should inform the measure of welfare used in any examination of the relationship between placative and coercive. These two sources indicate that the percentage of poor people receiving benefits and/or the average benefit payment per family is the best measures of welfare. When researchers include broad measures of phenomena it is impossible to determine which aspect of the measure really produces a change in the dependent variable? For instance, while the welfare coefficient in the Beckett and Western study supported the hypothesis, it is possible that education spending is responsible for the effect of “welfare” on incarceration.

Another issue recurrent in the literature is the use of appropriate controls in the regression models. Three obvious predictors of welfare are percent minority, poverty, and percent of households headed by females. Despite the obvious link between these factors and welfare and the theoretical possibility of links between these factors and coercive control, very few researchers included these control measures in their models. If these factors have a positive association with coercive control and with welfare, then not controlling for these factors would skew the welfare-coercive control relationship in a positive direction. Only a few studies controlled for poverty and/or percent minority and only one study [9] controlled for the percentage of female-headed households.

The final difficulty in estimating the relationship between welfare and coercive control is modeling the reciprocal effects between the two forms of social control. This entails recognizing the possibility of such a relationship and completing the necessary statistical procedures to “control” for the effects of coercive control on placative control. Most of the time-series studies employed lagged variables to address this issue. However, the best way to assess and control for two-way causation is to use two-stage least squares regression (or some variation) to actually model the reciprocal relationship. Only three of the articles went to such lengths to address the question of causal order.

These limitations cast doubt upon the entire body of findings. However, some studies used better techniques for addressing two-way causation and included the appropriate controls. The four most technically sound and statistically advanced studies reviewed were Greenberg and West [11], Fording [16], Sutton [14], and Beckett and Western [15]. Each of these studies used time-series, fixed effects modeling, and controlled for a variety of possible confounding factors to estimate the effect of welfare on coercive control. All of the estimates produced by these studies support the research hypothesis.

The findings from each of the studies point to very different conclusions. The “vote count” method indicates that there is no

relationship between welfare and coercive control and a review of the better studies suggests that there is a negative relationship. Future research should pay extra attention to the problem of two-way causation. Of primary concern here is including the appropriate instruments so that the estimates are meaningful and consistent. In addition, future researchers should thoroughly review the literature to determine what factors are likely to affect welfare participation and welfare generosity. These factors should be including as controls to isolate the effect of welfare on coercive control. Finally, researchers need to develop and validate a accurate measurement of welfare. This will lead to easier comparison across studies and greater confidence in the research findings.

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