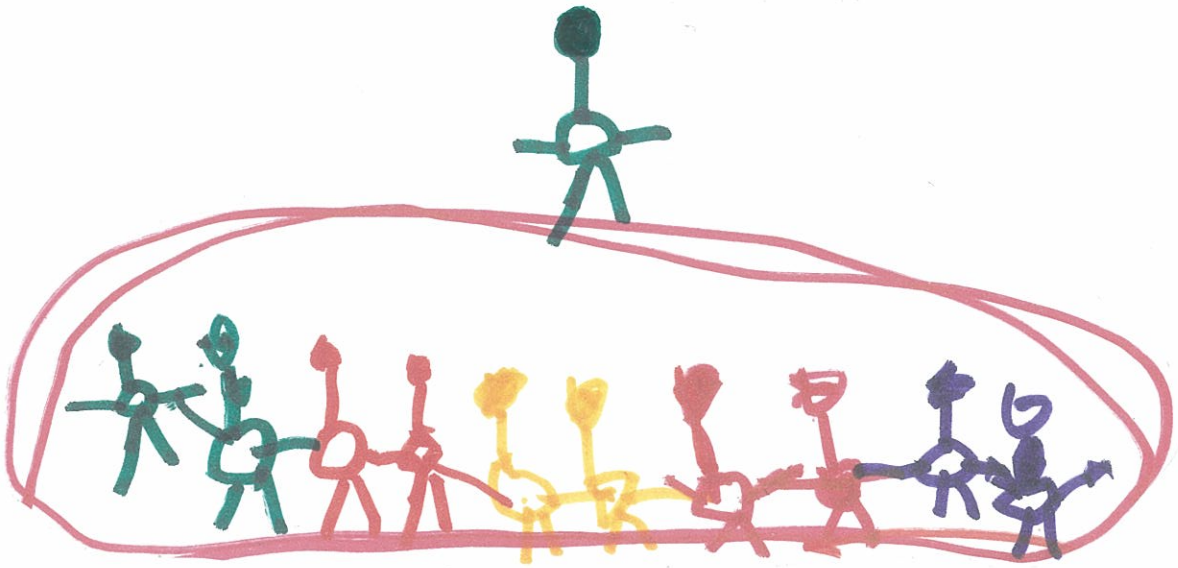

Welfare Reform and Infant Health:

The Impact of Mandatory Maternal Employment

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Nearly 30 million American children – almost 40% of all Americans under 18 – live in or near poverty, placing them at an increased risk of disease and death during childhood and later in life. Policies that effectively address child poverty and mitigate its adverse effects on health are critical to the health of our nation.

ABSTRACT:

The Welfare Reform legislation of 1996 increased the stringency of the "welfare" program, gave states unprecedented discretion in defining their "welfare" programs, set time limits for receipt of benefits, and explicitly required that adult recipients – predominantly single mothers – work to receive benefits. Previous studies of this mandatory maternal employment have shown mixed effects on children, but the health effects on infants have not been well-studied.

Using States as the units of analysis, this research performed a cross-sectional regression analysis of 1999 state TANF work policies and infant mortality among mothers with less than a high school education (<HS). The TANF work provisions evaluated were: 1) the timing of mother's return to work after delivery or adoption, 2) the number of hours of work required, and 3) the sanctions levied for non-compliance with work requirements.

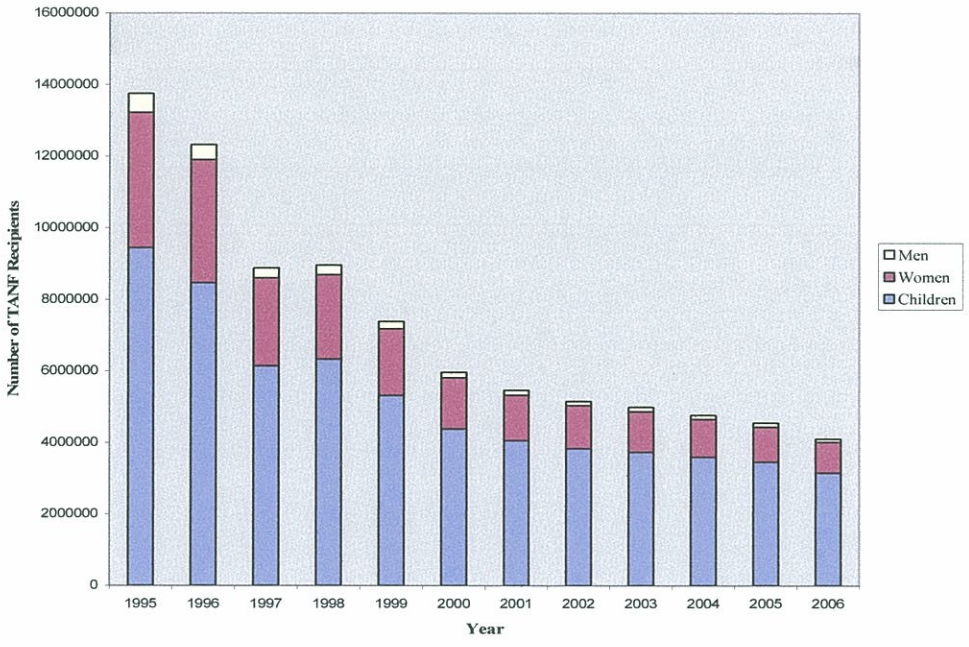
Regression analysis indicates that States with more stringent sanctions had higher total infant mortality among mothers with <HS in 1999, and suggests that most of this differential occurred during the postneonatal phase, when controlling for other TANF work policies, macroeconomic conditions, demographics, and baseline infant mortality. This research describes the relationship between the work policies and infant mortality (<HS) in 1999 and assigns no causality. Further research will follow to more fully explore the impact on infant mortality of these three work provisions as well as other relevant TANF policies.

INTRODUCTION:

On August 22, 1996, Congress passed the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), or "Welfare Reform." This sweeping legislation abolished the 65 year-old Aid to Families with Dependent Children (AFDC) program, replacing it with the more stringent Temporary Assistance for Needy Families (TANF) program. With Welfare Reform, Congress repealed the federal entitlement to assistance, set time limits for receipt of benefits, gave states unprecedented discretion in defining their "welfare" programs, and implemented "workfare" – an explicit requirement that adult recipients work to receive benefits.

Although more than 70% of TANF recipients are children, 90% of the adult TANF recipients are women – predominantly single mothers. Employment requirements, therefore, disproportionately affect these mothers – and their children.

Number and Proportion of TANF Recipients: 1995-2006

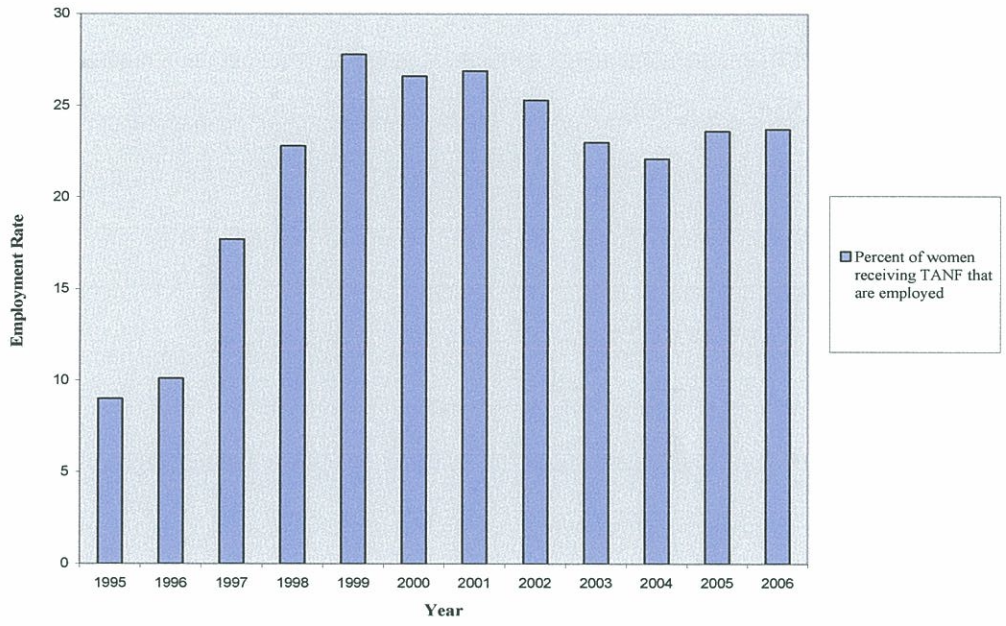


* The proportion of Women to Men for 1997-1999 and 2006 are estimated from historical data.

Source: U.S. Department of Health and Human Services, Administration for Children and Families, Office of Family Assistance. <www.acf.hhs.gov/programs/ofa/tanfindex.htm>.

Within 10 years of Welfare Reform's implementation, TANF enrollment had decreased by 67.7% and employment among female recipients had increased by 134.7%. How has this transition affected children?

Employment Rate of Women Receiving TANF: 1995-2006



* The employment rates for 1997-1999 were estimated from the overall employment rate among TANF recipients and the employment rates among women in the U.S. available at: <www.aspe.hhs.gov/hsp/indicators06/ch3.pdf> and <www.bls.gov/cps/wlf-databook2006.htm>.

Source: U.S. Department of Health and Human Services, Administration for Children and Families, Office of Family Assistance., <www.acf.hhs.gov/programs/ofa/tanfindex.htm>.

Research evaluating the impact of Welfare Reform on children generally links TANF employment programs that increase parental employment and income with positive effects on preschool and early school-aged children, but negative effects on adolescents (Clark-Kauffman et al., 2003; Blank, 2002; Grogger, 2002). The impact of TANF's employment provisions on infants, however, has not been well-studied.

LITERATURE REVIEW:

The limited studies addressing TANF's effect on infant health have demonstrated that:

- "stringent" TANF work requirements (full-family sanctions and greater than 18 hours of work) were associated with decreased rates of breastfeeding (Haider et al., 2003)
- the decline in TANF enrollment was associated with decreased rates of prenatal care and a small increase in low birth-weight babies (Kaestner & Lee, 2005; Currie & Grogger, 2002).

Studies of maternal employment during infancy outside of the TANF context have found that:

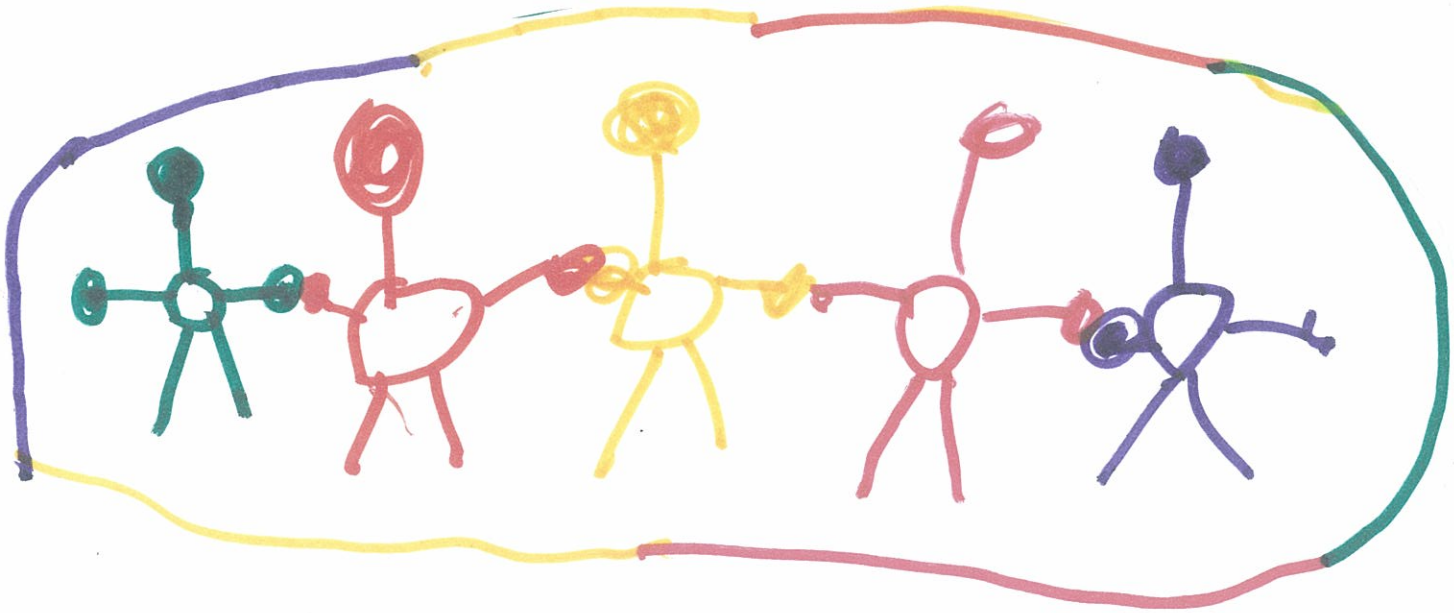
- the most significant factors in determining the impact of maternal employment on infants appear to be: 1) number of hours worked, 2) child's age/stage of development, and 3) quality of child care (Clark-Kauffman et al., 2003; Brooks-Gunn et al., 2002; Shields & Behrman, 2002; Han et al., 2001)
- mothers' return to work within the first 12 weeks of life was associated with decreased rates of breastfeeding, immunizations, and well-child care (Berger et al., 2005)
- extending job-protected paid maternal leave decreases infant mortality (Tanaka, 2005; Ruhm, 2000; Winegarden & Bracy, 1997)
- full-time employment during infancy is generally associated with adverse cognitive effects (although this is less clear for Black and Hispanic – and possibly low-income – children) (Ruhm, 2004; Waldfogel et al., 2002; Han et al., 2001; Harvey, 1999).

METHODS:

UNIT OF ANALYSIS: Welfare Reform has essentially resulted in 51 different programs (50 States plus the District of Columbia) due to the unprecedented discretion of states in defining their specific "welfare" programs. The State is the unit of analysis for this research.

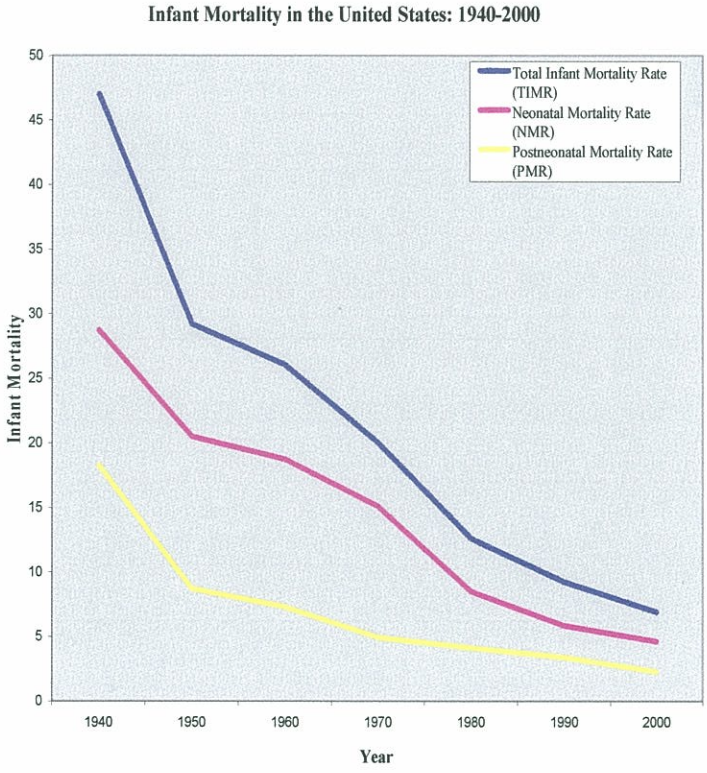
INDEPENDENT VARIABLES: While AFDC had previously exempted mothers of children under three years of age from work requirements, work exemptions for TANF recipients are at the discretion of the states, as are the number of required work hours for these mothers and the penalties applied for non-compliance. The independent variables are TANF work provisions encompassing:

- Work Exemption – exemption of mothers from TANF work requirements after delivery or adoption; the timing of mother's return to work
- Hours of Work – number of hours mothers of infants are required to work
- Sanctions – penalty or benefit reduction for non-compliance with work requirements



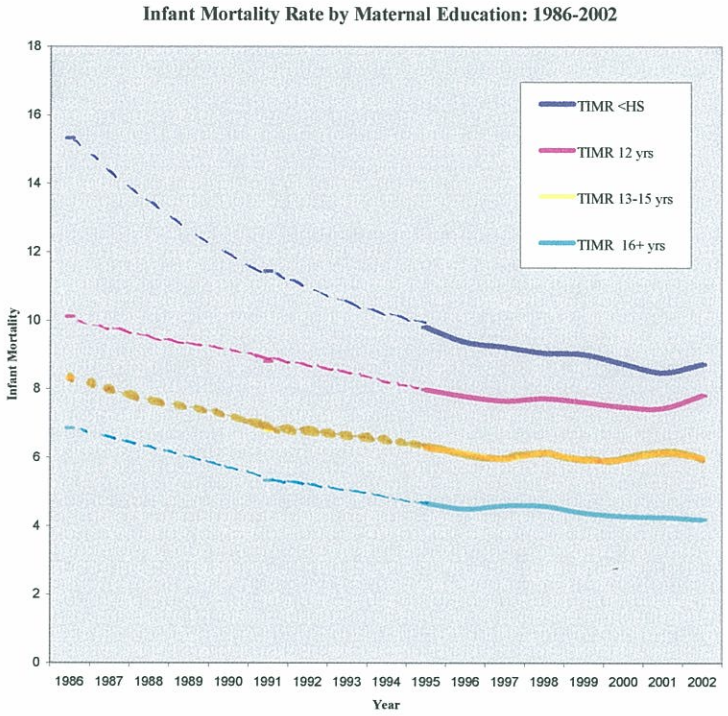
DEPENDENT VARIABLES: Infant mortality is both an indicator of overall population health and an infant health outcome that is potentially affected by maternal employment. The dependent variables are:

- Total Infant Mortality Rates (TIMR) – the number of deaths of infants under one year of age per live birth, which is the sum of:
- Neonatal Mortality Rate (NMR) – deaths of infants between 1-27 days per 1000 live births, and
- Postneonatal Mortality Rate (PMR) – deaths of infants between 28-364 days per 1000 live births.



Source: Centers for Disease Control and Prevention (CDC) (2007). "Deaths: Final Data for 2004," *National Vital Statistics Report 55(19)*; and Centers for Disease Control and Prevention (CDC) (2007). "Infant Mortality Statistics from the 2004 Period Linked Birth/Infant Death Data Set" *National Vital Statistics Report 55(14)*.

STUDY POPULATION: There is no identifiable dataset linking state-level infant health outcomes to maternal TANF status. The subset of mothers with less than a high school education (<HS) was chosen as the study population as they represent 16% of women in the U.S. population but over 40% of the adult TANF population. Of note, infant mortality among women with <HS is higher than that of all other educational groups – particularly during the postneonatal phase.



Source: Data for 1986 and 1991 are from the National Linked Birth/Infant Death Data Set as reported in: Singh, G. K. & Kogan, M. D. (2007). "Persistent Socioeconomic Disparities in Infant, Neonatal, and Postneonatal Mortality Rates in the United States, 1969-2001." *Pediatrics, 119(4)*, e928-e939. Data for 1995-2002 are from the Linked Birth/Infant Death Data Set available from the Centers for Disease Control and Prevention (CDC) at <wonder.cdc.gov>.

DATA: The data were obtained from the public-use files for the Linked Birth/Infant Death Data Set available from the CDC at <wonder.cdc.gov>.

STUDY DESIGN: A Cross-Sectional Analysis was conducted to estimate the relationship between TANF work provisions and infant mortality among mothers with <HS in 1999 controlling for macroeconomic conditions, race, and baseline infant mortality. The analysis followed the regression model:

$$Y_i = \acute{\alpha} + \beta_1 \text{EXEMPT} + \beta_2 \text{HOURS} + \beta_3 \text{SANCTIONS} + \beta_4 \text{UNEMPLOY} + \beta_5 \text{RACE} + \beta_6 \text{BASELINE}_{95}$$

Where:

- Y_i is the 1999 infant health indicator (TIMR, NMR, PMR) for infants born to mothers with <HS in state *i*
- $\beta_1 \text{EXEMPT}$ is a dummy variable for the 1999 TANF work exemption policy for mothers/child caregivers (< 6 months vs. 6 months+) in state *i*
- $\beta_2 \text{HOURS}$ is a dummy variable for 1999 policy defining work hours requirement for mothers of infants (< 25 hrs / "case-by-case" determinations vs. 25+ hrs) in state *i*
- $\beta_3 \text{SANCTIONS}$ is a dummy variable for the characterization of the 1999 TANF sanction policies (Lenient–Intermediate vs. Restrictive–Stringent) in state *i*
- $\beta_4 \text{UNEMPLOY}$ is the unemployment rate for 1999 in state *i*
- $\beta_5 \text{RACE}$ is the percent of births to Black mothers among births to mothers with <HS in 1999 in state *i*
- $\beta_6 \text{BASELINE}_{95}$ is the 1995 infant health indicator (TIMR, NMR, PMR) for infants born to mothers with <HS in state *i*

RESULTS:

The following is a categorization of states by 1999 TANF work policies:

WORK EXEMPTION*		HOURS OF WORK		SANCTIONS	
<6 months	6+ months	<25 hrs/case	25+ hrs	Lenient-Intermediate	Restrictive-Stringent
AZ	AL	AL	AK	AK	AL
AR	AK	AZ	AR	AZ	DE
DE	CA	CO	CA	AR	FL
FL	CO	CT	DC	CA	GA
ID	CT	DE	FL	CO	ID
IN	DC	HI	GA	CT	IA
IA	GA	IA	ID	DC	KS
MA	HI	KY	IL	HI	LA
MI	IL	LA	IN	IL	MD
MT	KS	MD	KS	IN	MA
NE	KY	MA	ME	KY	MS
NJ	LA	MI	MO	ME	MT
NY	ME	MN	MT	MI	NE
ND	MD	MS	NE	MN	NV
OK	MN	NH	NV	MO	NJ
OR	MS	NM	NJ	NH	ND
SD	MO	ND	NY	NM	OH
TN	NV	OH	NC	NY	OK
UT	NH	OR	OK	NC	PA
WA	NM	PA	TN	OR	SC
WI	NC	RI	TX	RI	SD
WY	OH	SC	VA	TX	TN
	PA	SD	WA	VT	UT
	RI	UT	WV	WA	VA
	SC	VT	WI		WV
	TX	WY			WI
	VT				WY
	VA				
	WV				

* Neither lifetime limits nor distinctions between first and subsequent children were taken into account when categorizing the state Work Exemption policies.

It should be noted that Hours of Work and Sanctions advance toward increasing stringency, while Work Exemption advances toward greater leniency.

What is the relationship between the stated TANF work provisions and infant mortality in 1999?

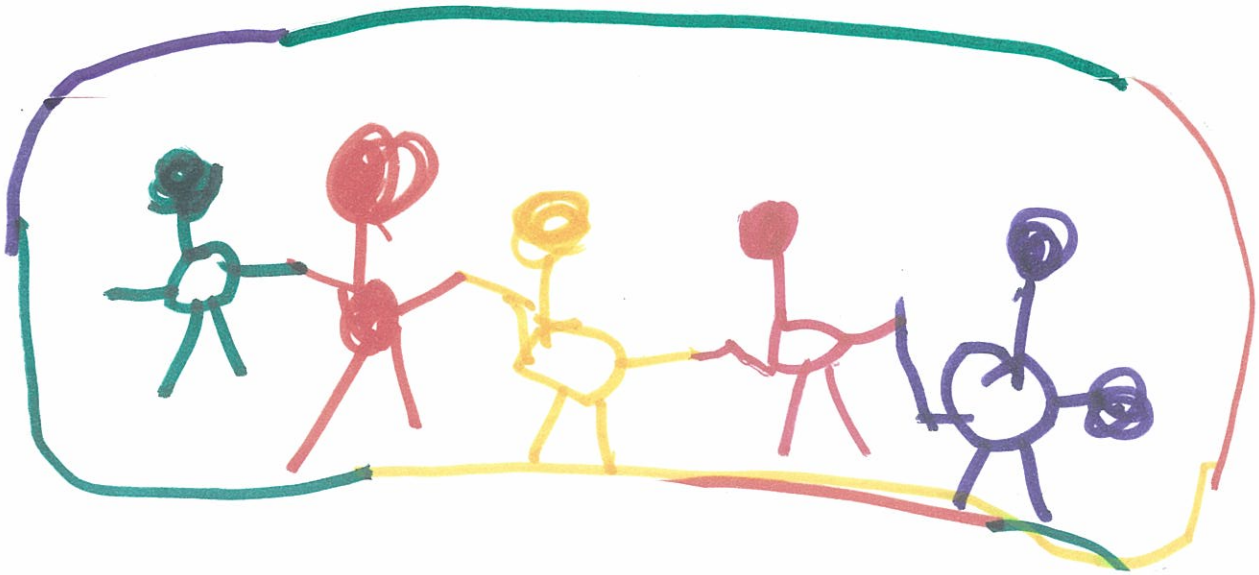
Correlation Table: Work Policy–Infant Mortality

1999	TIMR	NMR	PMR
Work Exemption	-.015	.059	-.086
Hours of Work	-.015	-.086	.065
Sanctions	.454**	.321*	.407**

*. Correlation is significant at the 0.05 level (2-tailed).

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

Overall infant mortality is directly correlated with the stringency of sanctions, as is infant mortality during both the neonatal and postneonatal phases – that is, states with more stringent Sanctions policies were correlated with higher infant mortality. These correlations do not, however, factor in control variables; the regression model below does.



Regression Model Coefficients: Work Policy–Infant Mortality

	TIMR	NMR	PMR
Work Exemption	.285	.066	.494
Hours of Work	.366	-.088	.401
Sanctions	.905*	.301	.761^
Unemployment	.165	-.329	.024
Race	-.009	.043**	-.002
Baseline Rate	.210*	.273**	.494**
(Constant)	.493	4.398**	.824
Mean Value of Dependent Value [a, b]	9.70	5.57	4.13

a. Dependent value is measured as deaths per 1000 live births

b. Mean value is unweighted average.

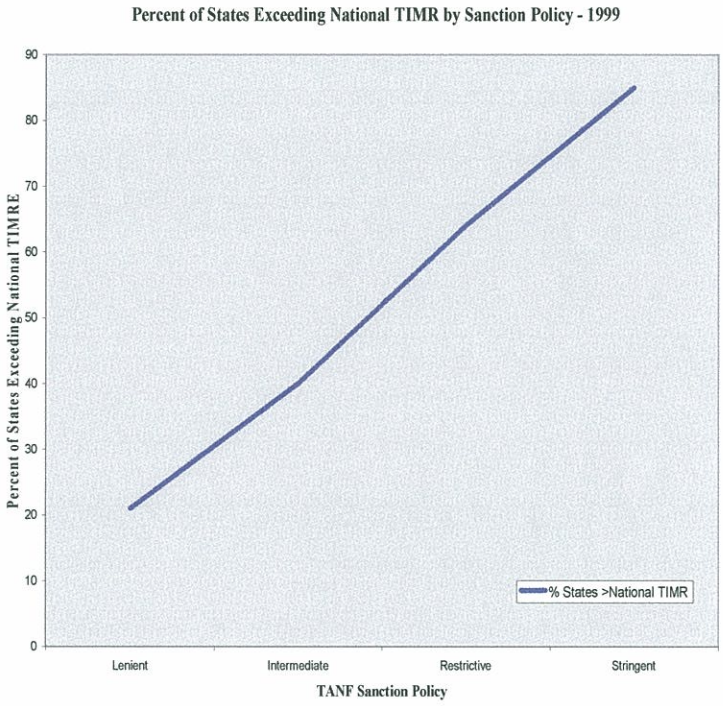
^. Approaches statistical significance.

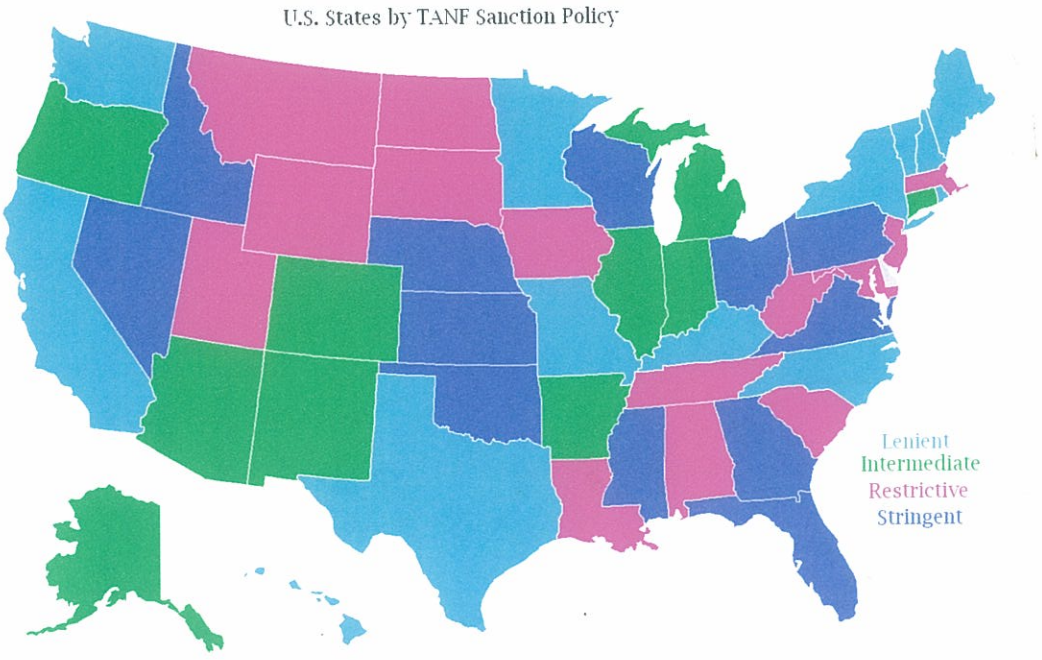
*. Significant at the 0.05 level.

**. Significant at the 0.01 level.

This regression model indicates that, after controlling for state macroeconomic conditions (unemployment), demographics (race), and baseline infant mortality, states with more stringent Sanctions policies had higher overall infant mortality (TIMR) (β =.905, *p*-value =.042). The results suggest that the relationship is stronger during the postneonatal phase (β =.761, *p*-value =.068) than during the neonatal phase (β =.301, *p*-value =.308).

When considering Sanctions policies as a 4-category variable – Lenient, Intermediate, Restrictive, Stringent – rather than the dichotomous variable from the regression model, the above finding is highlighted by the percent of states within each category that exceeds that national unweighted TIMR:





CONCLUSIONS:

Of the three TANF work provisions evaluated (work exemption, hours of work, and sanctions) in the regression model $\mathbf{Y}_i = \alpha + \beta_1 \mathbf{EXEMPT} + \beta_2 \mathbf{HOURS} + \beta_3 \mathbf{SANCTIONS} + \beta_4 \mathbf{UNEMPLOY} + \beta_5 \mathbf{RACE} + \beta_6 \mathbf{BASELINE}_{95}$, only sanction policies had a statistically significant relationship with infant mortality in 1999 when other TANF work policies, macroeconomic conditions, demographics, and baseline infant mortality were taken into account. The results indicate that states with more stringent sanctions had higher overall infant mortality, and suggest that most of this differential occurred during the postneonatal phase. Because of the cross-sectional design, the presence of other potentially influential TANF work provisions (e.g., earned income disregards, child care assistance), and given that the sample approximates rather than represents TANF recipients, caution should be taken to avoid any inference of causality: this research describes the relationship between the work policies and infant mortality in 1999 and assigns no causality. Further research will follow to more fully explore the impact on infant mortality of these three work provisions as well as other relevant TANF policies.

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